PENTAX®

Service Manual

≪ English Version≫

PENTAX MZ-S QUARTZ DATE

PRODUCT No.27640 MZ-S QUARTZ DATE (BLACK)
PRODUCT No.27641 MZ-S QUARTZ DATE (SILVER)

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Technical Service Section.
05:01 H.Y

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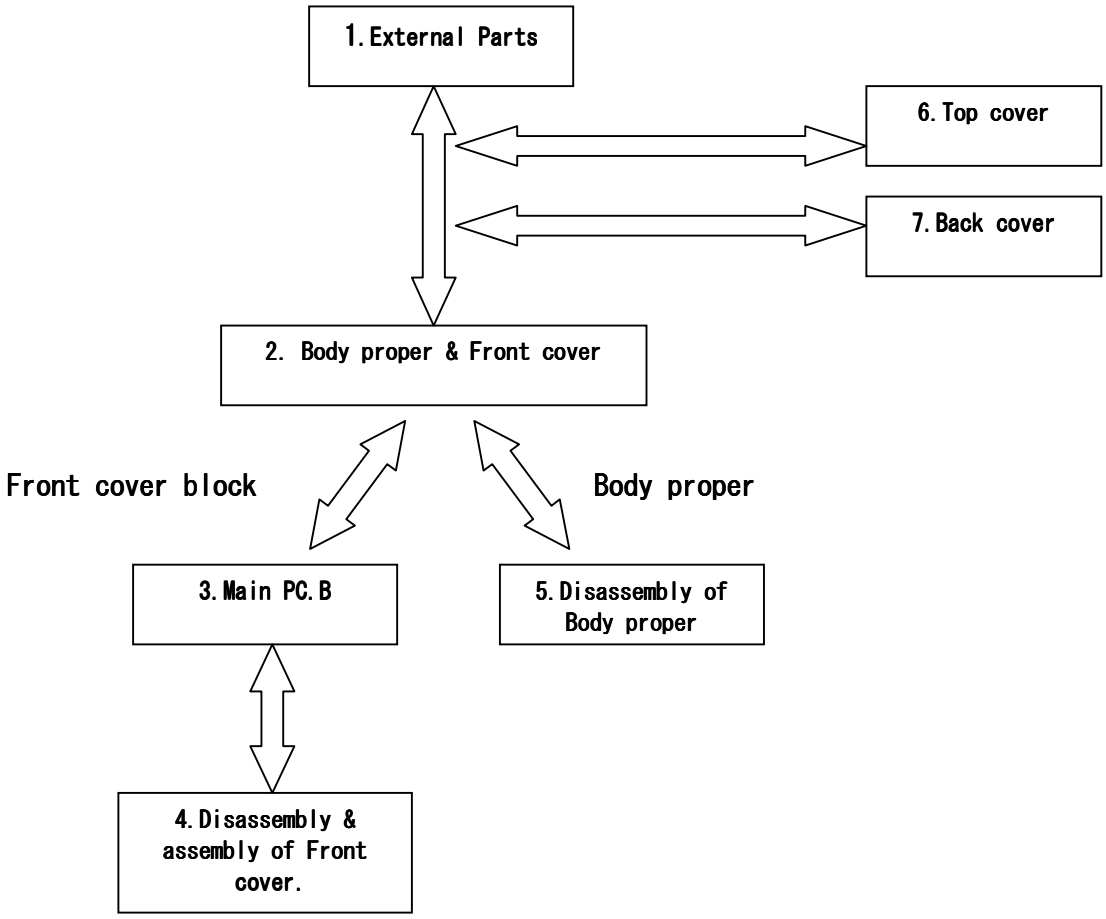
OUTLINE OF DISASSEMBLY & ASSEMBLY

OUTLINE

Follow the procedure and the notice whenever disassembling & assembling 27640(MZ-S).

Chart for disassembly & assembly.


1. External Parts
6. Top cover
7. Back cover
2. Body proper & Front cover
Front cover block
Body proper
3. Main PC. B
5. Disassembly of Body proper
4. Disassembly & assembly of Front cover.

Procedures of disassembly & assembly.

1. External Parts.

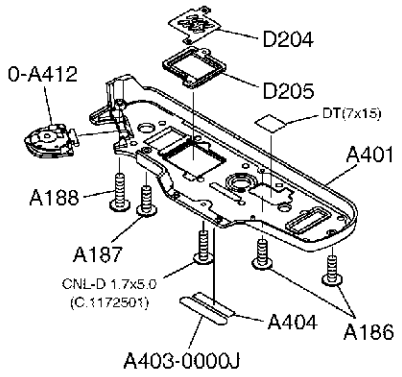
Parts numbers are described based for 27640(Black).
Refer to the Service Parts List for 27641(Silver).
[Note] To prevent internal electronic circuit from being destroyed by the static electricity, use anti-static matte and wrist strap.

[Preparation] Remove eye cap FL, Hot shoe cover FL, Release socket cap, Sync. terminal, Bottom cover FL-L,-S.

[Disassembly]

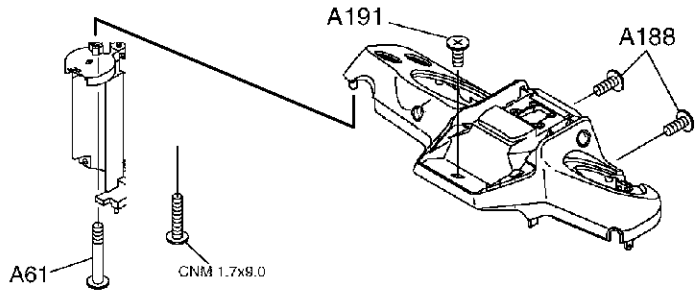
1-1. **Bottom cover (A401)・Battery cap(0-A412)**

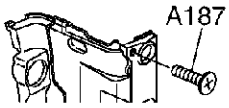
1) Peel off A403(Country seal).
2) Unscrew 5 screws.
3) A401, 0-A412, D204, D205.



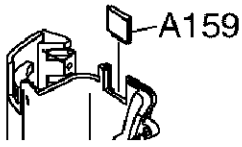
1-2. **Top cover (0-A301)**

1) Unscrew 6 screws ・・・Bottom side of Flash x1,Inside of Battery chamber x 1 , Open back cover x1, Both side of Eye piece lens x2, Left side of X terminal x1, Front cover(A102) can be removed.



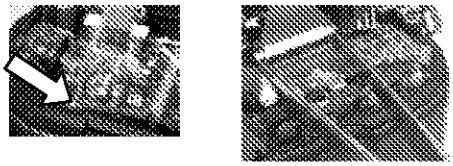


2) Peel off right hand side of Grip rubber, and remove Grip cover(A159). Be careful not to make shortage the lead wires which are lying behind A159.

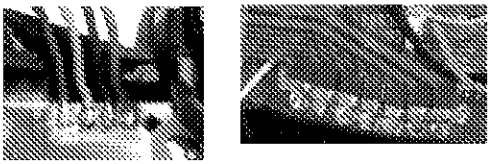


3) Discharge Main capacitor.
Lift top cover and discharge Main capacitor with resistance of 100Ω~1KΩ.
Blue lead wire : (Xe+)・・・On Flash PCB.
A35 Battery contact(−)・・・Tightening position of screw.

4) Red lead wire(No.21,X sync. terminal side)



5) 2 positions on connector (Lift both sides of white portion for about 2mm, Flexi PCB. will be apart.)
[Note] The durability of T100 connector is about 40 times. Be sure to handle very courteously.

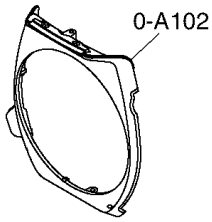


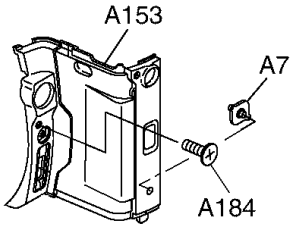
6) 4 lead wires from Flash PCB(Q200).
7) Peel off PT(28X60)
8) Unsolder 7 lands on 0-T50 Flexi.
9) Remove 0-A301.

1-3. P(Film chamber) side of Front cover(A153).
1 screw at side cover SW･･･
remove from X terminal side.

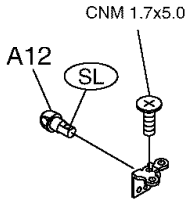
1-4. Front cover（A102）

1-5. Back cover（0-A201）

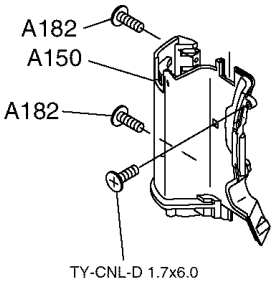


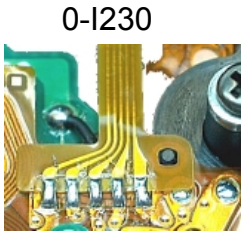


1-6. Strap hook at Grip side（A12）
･･･1 screw.



1-7. Grip（A150）、3 screws･･･Unsolder 5 lands on 0-I230Flexi.PCB.
Install back cover to prevent shutter curtains from being jammed.



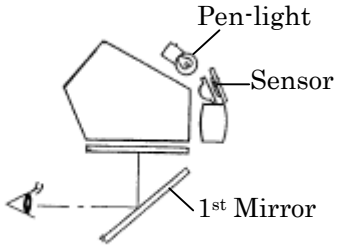


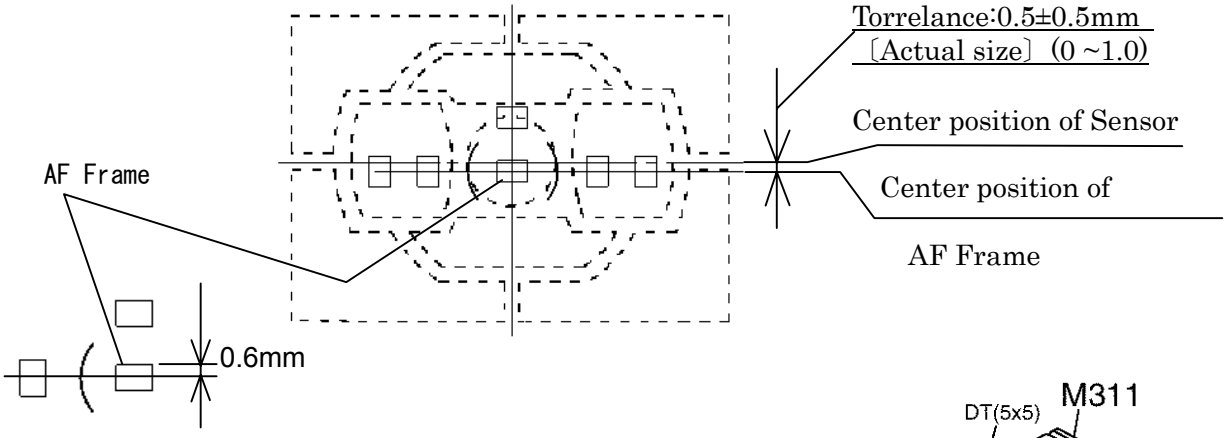
[Assembling procedure]

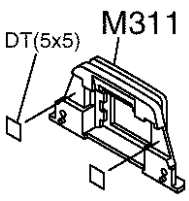
1-1. [Adj.･Conf.]Positioning of light receiving sensor

[Preparation] Pen light or similar one.

1) Set the camera at mirror down condition(Original position).
2) Shut the light at eye piece portion by black tape.
3) Shine Pen-light on light sensor as shown in Fig.
   Adjust positions of sensor by changing angles of Pen-light until the light sensor pattern on 1st mirror become visible.
4) **[Confirmation]** The light sensor should position as shown in Fig. below and it should not be inclined.





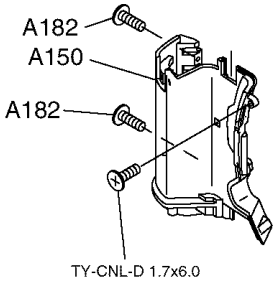


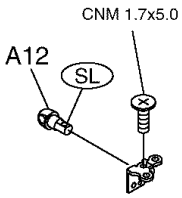
5) **[Adj.]** Remove M311. Adjust the position of sensor by loosening retainer screws for sensor and moving whole assembly of sensor.
6) After adjustment is completed, apply screw lock to the 3 spots on screws and light receiving sensor.
7) Install M311 while checking engagement.
   Make sure that the smoother function of diopter lever.

[Reference]
Attaching brighter lens is advisable to assist better visibility.
(Example :FA 50mm f/1.4)

1-2. Grip (A150)

1) Solder 5 lands on 0-I230.
2) 3 Screws (A182 x2 : Size1.7x3.5)
3) A12(Strap hook),1 screw･･･
Apply screw lock at the screw hole.

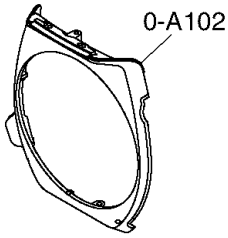


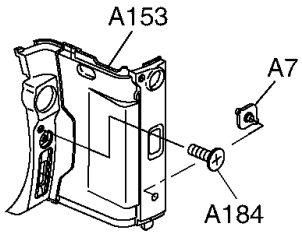


1-3. Back cover assy. (0-A201)

1-4. Body covering left (A153)

1) A153･A7･･･Set A153 and AF mode SW to the AFS.
2) 1 screw(A184)･･･at the SW side.

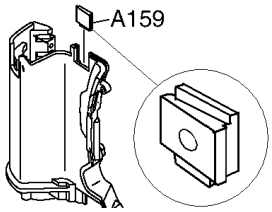




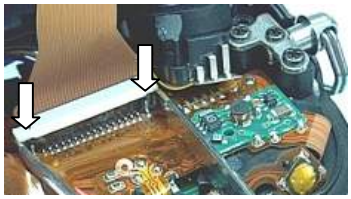
1-5. Front cover (A102)

1-6.Top cover (0-A301)

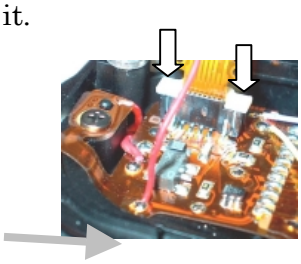
1) Solder 7 lands (0-T51)
2) Solder 4 lead wires (0-Q100)
(Viewing from rear side---In order Blue,
Brown, Black, Green)



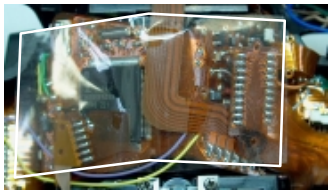
3) Install A159.



4) Solder 2 lands on connector (T25, 0-T67). Insert Flexi. horizontally and push in both white parts of it.

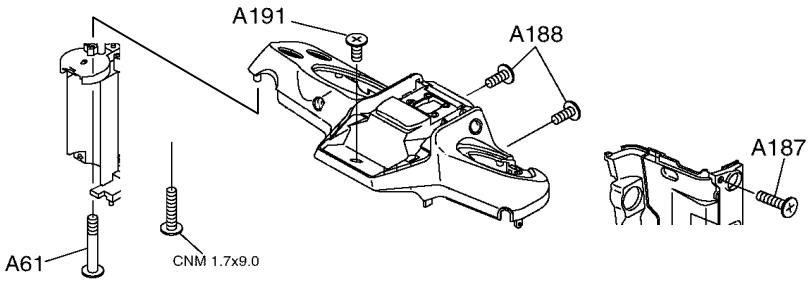


5) Solder red lead wire
(No.21 Sync. terminal side)



6) Install O-A301.
-1) Arranging lead wire and adhere PT(28x60)→
-2) 6 screws(A61=1.7x13, A181=4.7x2.5, A187x3=1.7x5.5)
-3) Adhere A151(Grip rubber) very securely.

1-7.Install temporally Bottom cover and Battery cover for checking and adjustment.



1-8.[Check] Quiescence current

[Preparation] Regulated power supply, Ampere meter(Circuit tester)
Power adaptor (Hand made : Modify Battery grip BG-10)

[Check] Set regulated power supply DC5.5V(over 3A).
Make sure not exist any shortage or leakage in the circuit.

＊Quiescence current : Main SW/off / under 50μA.
Main SW/on (Light meter SW off) under 300μA.

1-9.[Check] Checking function.

[Preparation] : Supply the voltage. (Be careful not to insert battery up-side down,
Be careful---the polarity of the battery is opposite to other MZ series cameras.)

1). Main SW, Release SW, TV dial on.

-1) Av (F--) will appear on external LCD when Main SW turns on.
-2) Diaphragm actuate lever (0-G100) swings up completely when Main SW set to Pre-view.
-3) The indication (Right · Bottom) in viewfinder remains ON for about 10 seconds when depressing release button halfway.
-4) The shutter should be released and the shutter curtain should open when releasing shutter button setting at [bu].

2). Switching A/M· TV auto button.

-1) Attach FA lens. "P" or "Av" on external LCD should indicate when depressing TV auto button.
-2) "P" or "Av" should change when switching diaphragm ring A to Manual or vise-verse.

3). Tv dial・HOLD lever.

-1) When turning Tv dial to the left and right, indication of P (Av) to Tv (M) and Tv value should change accordingly.
-2) When turning Tv dial and setting HOLD lever to right, HOLD indication should brink and Tv·Av value should not change.

4). Drive lever.

Confirm the functions at each shooting modes by switching Drive lever.

5). Light metering SW lever・AE-L button.

-1) "＊" in viewfinder should indicate when depressing AE-L button and setting Auto exposure mode.
"＊" in viewfinder should disappear when depressing AE-L button again.
-2) "＊" in viewfinder should disappear when switching light meter mode while turning "＊" on in viewfinder. (Simple checking method for light metering mode SW)

6). LCD illumination button.

Green illumination on external LCD should turn on when depressing LCD illumination button and it should turn off automatically after about 10 second later.

7). Exposure compensation (Xv) dial・Auto bracket(AEB)dial.

-1) Xv at right hand side in viewfinder should turn on when Xv dial is set at other than "0".
-2) AEB should indicate when AEB dial is set ±1/2・±1.
-3) When setting Xv dial at ISO・PF・D , the indication should turn on and Tv dial should be able to set each functions accordingly.

8). Back cover SW· Winding· Rewinding

-1) The film should be wound and exposure counter advances to [1] when loading 36ex. test film, close the back cover and turn the main SW on.

-2) Release shutter several times and check to see the advancing film, the film counter advances properly.
When the film is advances 30 exposures, Film mark should brink and PCV should start ringing.

-3) Check to see that the film should be rewound when depressing mid - roll rewind button.

-4) There should not exist any abnormal sound or noise when winding and rewinding film.

9). Flash discharging · Mode switching.

-1) Flash mark should indicate when the flash is popped-up.

-2) Flash mode should change when turning Tv dial while depressing side button.

-3) Check the function of Red eye reduction mode・ A Auto discharge mode.

10). AF check(Attach FA lens and set at AF.S mode.)

-1) When depressing AF button while lens front cover is covered with fingers, the distance ring should move from closest distance to infinity (∞).

-2) Assistance spot beam (continuous light) should work when depressing AF button with lens front cap on and flash is popped-up.

-3) When turning Tv dial while pushing AF area mode lever to SEL, AF area switches securely.

-4) AF area(point) should be fixed when the AF area mode lever is set to L.
6 divided AF area mode should work properly when mode lever switches A.

11). Lens mount index lamp.

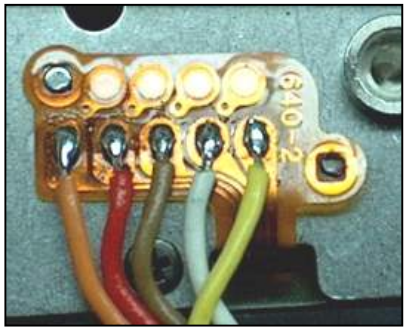
Lens mount index lamp turns on when depressing mount lock button without lens attached.
(It should be checked out in darker space.)

1-10.[Adjust･Check] Adjustment with programmed soft ware.

[Prepared] (Items with "*" means that exclusively use for 27640)

☐* 27640Programmed Software, ☐Personal computer, Display,
☐Camera connecting cable for 27250, ☐Serial interface & cable, Buffer、
☐AE standard lens for LX, ☐F8 Set ring, ☐Hexagonal driver 1.5 mm、
☐Focus master lens for MEF（AF） or ☐Focus master lens for 2m,
☐LX 1st curtain reflector plate for TTL,
☐Shutter tester(measurable 1/6000sec.)
☐A F sensor positioning jig： ☐Cross for 27250, ☐*Square for 27640, ☐*Cross for 27640
☐* AF chart for 2m（Attached with Service manual, should used ☐Focus master lens for 2m,
☐F/FA Lens 35-80mmF4-5.6(41280/41287),
☐* Power source adapter(Hand made：modify Battery grip BG-10),
☐* Temporarily Bottom cover and Battery cover, ☐ Regulated power supply,
☐Battery(CR2)

1） Solder Camera adapter cable for 27250(MZ-5). (From left hand side, Orange, Red, Brown, White, Yellow)



2） Insert Battery to the camera.
3） Adjust and check accordingly with Flow chart in 27640Program soft. (Page 28/34 to 33/34)

[Supplement] Adjust shutter speed（1/6000Sec.）

This adjustment must be done whenever replacing 0-T100 or 0-E000.
Procedure is identical with 27370(MZ-3).

1） Set the camera at consecutive mode at this stage and select the type of Shutter tester.

***** SHUTTER SPEED ADJUSTMENT *****

*SET DRIVE MODE SW OF CAMERA TO
CONSECUTIVE-FRAME MODE.

SHUTTER TESTER FOR 1/6000 SEC. ---[1]
SHUTTER TESTER [MODEL EF-5000] ---[2]
MAIN MENU ---[3]

2） Select [1] when the shutter tester is measurable shutter speed 1/6000 sec.
(Example:EF-8000、7DF-50A1 for 645)
Select [2] when the shutter tester is measurable exposure values.
(Example:EF-5000 at EE mode)

3） Release the shutter several times and input the number accordingly with display on CRT.
（Refer to flow chart on Programmed soft ware.）
Refer to the Service manual for 27370 when using shutter tester 7DF-50A1 and EF-5000.
Refer and consult to operating manual for the other shutter testers.

1-11.[Check] Shutter speeds, X-Time lug.

[Jigs, Tools, Testers] Shutter tester (1/6000sec. Measurable), AE master lens(ML-245).

1) Check manual shutter speeds.

[Note] When measuring exposures not at the center of the aperture(1st and 2nd) , please use Shutter testers with master lens mounted and the light is slanted light or pin-point type.

[Standard] Tolerated range of manual shutter speed.(Center of Aperture)

S.Speed(sec.)	Exposure time(ms)	Exposure value(EV)
1/6000	0.112～0.283	±0.7
1/4000	0.172～0.345	±0.5 (～1/3000sec.)
1/2000	0.370～0.644	±0.4 (～30sec.)

2) Set 1/180 sec. and check X time lug.

Parallel light(24mm running time)	Ref. Value(Spot beam、21mmRunning time)
1st・・・ Over－0.05 ms	1st・・・ Over 0.25 ms
2nd・・・ Over 0.8 ms	2nd・・・ Over 1.35 ms

1-12.[Check] Exposure value・DX correspondence.

1) Set camera at Programmed auto mode and measure the exposure values.

[Preparation] Shutter tester, Master lens for AE.(ML-245)

[Standard] Exposure Value(Master lens for AE、Aperture A position)

Brightness(LV)	Tolerated range(EV)
LV6～14	＋0.70～－0.50
LV15	＋0.95～－0.25
LV16	＋1.20～±0.00

☆ Check other exposure mode if necessary.

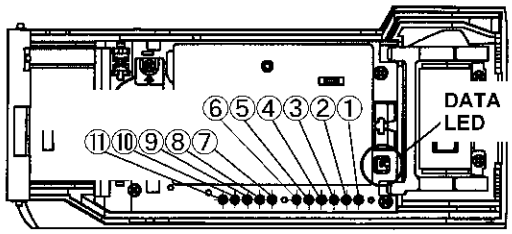
2) Check DX correspondent.

[Preparation] DX correspondent film (ISO400, 200, 100, and others.)

Load film and make sure that the LCD indication is matching with ISO of the film inside.

(Supplement : It can be checked with ISO 5000 film.(All contact pieces are closed.)

1-13.[Check] Checking Data imprinting.

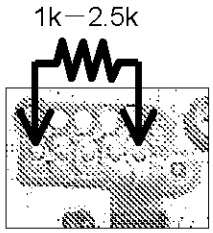


[Testers] Regulated power supply.

1-13-1. Checking Data imprinting LED.(Back cover)

[Note] Be sure not scratch on contact piece.

1) Apply 4.5V to the terminal⑨(+) and ⑧(—) as shown in Fig.
2) Check 1 LED turns on by making contact terminals ① and ⑧(—).
3) Check LED by shorting between ②～⑦ accordingly.



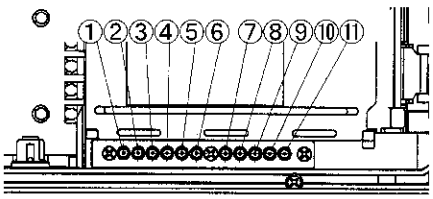
1-13-2. Checking Data imprinting.(Main body)

[Preparation] Logic tester・Analogue(Needle indication)Circuit tester.

[Note] Be sure not scratch on contact land.

1) Same as the indication in viewfinder, connect resister(1k-2.5kΩ) temporary for checking.
2) Turn Main SW ON (All LED should turn ON) and check followings.
3) DC 5V should exist between land ⑧ and ⑨(+).

Check to see if 2～4V output exist when shorting between the land ⑨(+) and ①～⑦.



1-14.[Check] Checking AF· PZ

[Testers and Jigs]

Collimator(or Optical regulator for MEF), Focus master lens, FA power zoom lens

-1.[Check] AF focus position (Using FI focus indicator)

Normally, AF focus point is the center only. FI checking at 6 points can be done by Programmed soft ware.

1) Set focus mode [MF] and mount focus master lens onto the camera body.
2) Set the camera at collimator.
3) Set collimator chart and the position of AF sensor are aligning horizontally.
   (Procedures are same as the positioning of AF chart and AF sensor in AF adjustment.)
4) Turn focus ring to right until it stops. Turn back slowly until in-focus mark turns on and measure the focus position on master lens.(A)
   Follow the same procedures from left side(B).

5) The center point between A . and B. should be in between <u>−0.05～+0.06mm.</u>
   (A+B) ／2 = <u>−0.05～+0.06mm.</u>
6) All 6 AF areas should be checked.

-2.[Check] AF mode

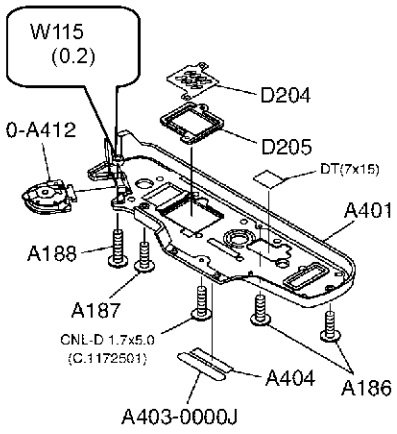
Check the function of MF・AF.C・AF.S with FA lens attached and switch AF mode lever.

-3.[Check] PZ(Power Zoom)

Attach power zoom lens and check the function of power zoom.

1-15.Bottom cover (A401)・Battery cover (0-A412)

Remove temporally bottom cover.



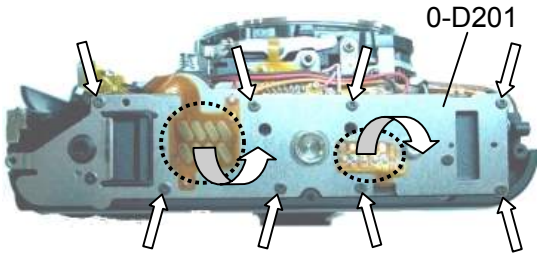
1) D204,D205,0-A412.
2) A401・PT(7x15)・・・W115(t=0.2) : Temporally use→
3) 5 Screws(A186 x2 1.7X4.5, A187 x2 1.7X5.5, A188 x1 7X7.5)
4) [Check] Check mechanical back.
   (The mechanical back may change by tightening A401.)
5) Attach Country seal(A403).
6) Install back covers and caps whatever removed at disassembly.

2.Main Body and Front cover block.

[Sequence of disassembly]

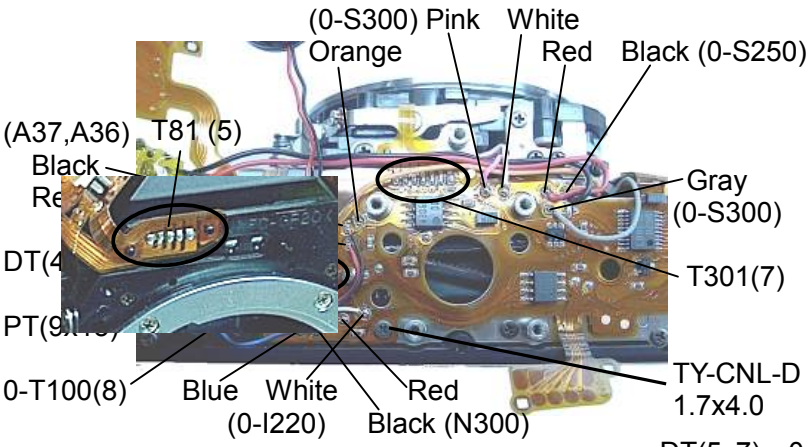
2-1. Bottom base plate(0-D201)

1) 8 Screws, peel off 2 Flexi. from DT.
2) Unsolder 2lead wires(Black and Red) from N300(PCV buzzer).

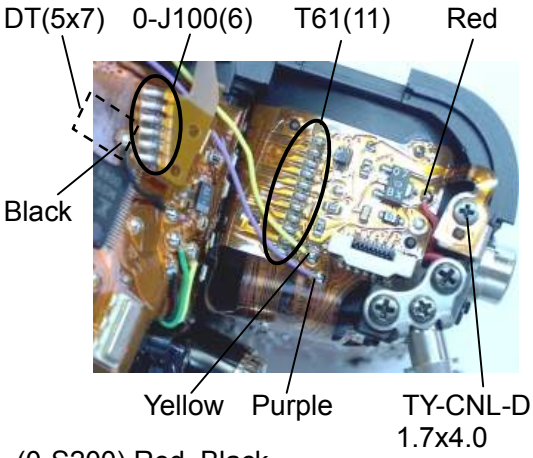


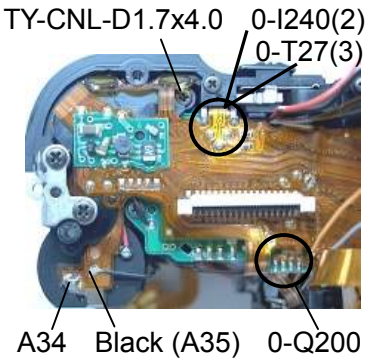
2-2. Removal of T100 Flexi, Lead wires.

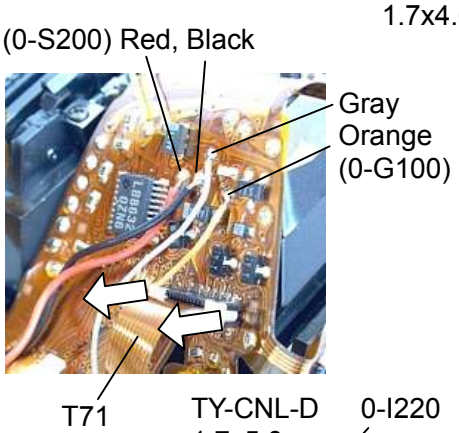
1) Bottom side･･･10 lead wires,2 Flexi.(when replacing T100), 1 screw from bottom.
2) Unsolder 9 contacts on DX contact, 3 lands on T64.



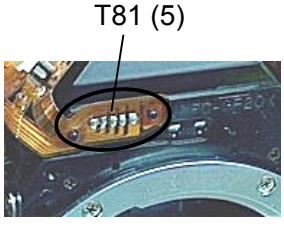
3) 2 lead wires (Yellow, Purple) on Top.
4) Unsolder Red lead wire from X terminal, 1 Screw.
5) Unsolder 11 flex lands and lift up flexi. board.
6) Top grip side･･･2 Lead wires (Red, Black) from 0-S200, 1 lead wire(Black) from A35.
Unsolder 3 flexi. lands on 0-T27.
Unsolder 2 lands on 0-I240, remove 1 screw.
Unsolder contact piece of A34.
7) Unsolder 4 lands on Q200.

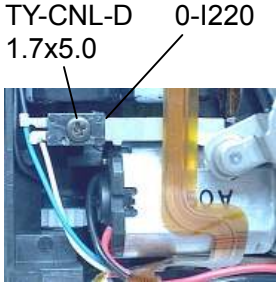






8) Top portion of Mount ring.
Unsolder 5 lands on T81,
Unhook flexi.

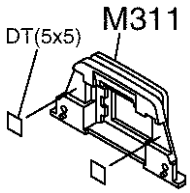




2-3. O-I220(Mount SW) ･･･Remove one screw at the mount ring bottom left hand side.

2-4. Eyepiece lens portion・・・Remove M311(adhered with Self adhesive tape)

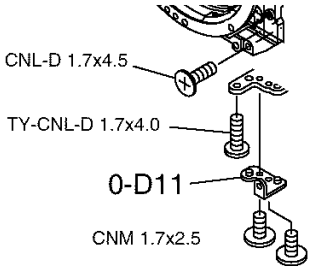
2-5. Set 0-A101 at Mirror-up condition.・・・Apply DC3V to the mirror motor (Red +) and set Diaphragm coupler lever swings up at the most top portion.

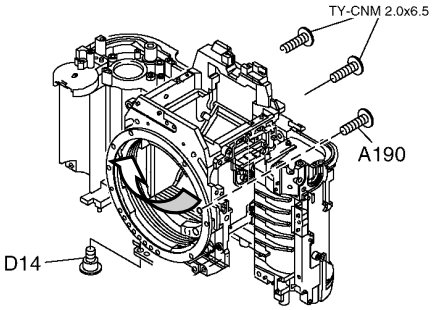


2-6. Bottom portion・・・3 screws on 0-D11, TY-CNL-D 1.7X4, D14(Shoulder screw).

2-7. Rear side・・・2x TY-CNM 2.0X6.5, 1 screw(A190)

2-8. While setting free 0-T100 from main body, lift Front cover block(Mirror box) and pull out slowly.

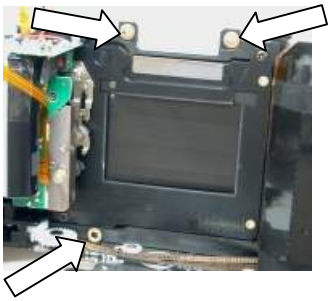


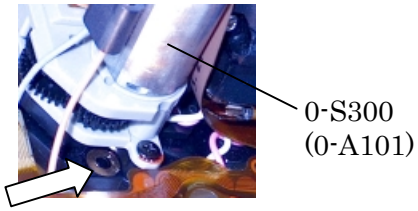


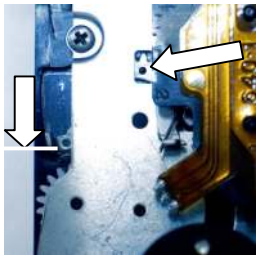
[Sequence of Assembly]

2-1.Main body and 0-A101(Front cover block).

1) Make sure that 3 Washers W14 (t=0.05~0.07) on Main body and 1 on 0-A101 are adhered.







2) Set 0-A101 at Mirror up condition. (Shutter charge lever should move down and the hole on the gear should be visible through the square hole.)

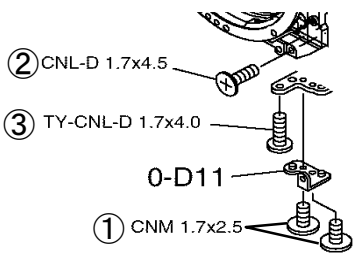
3) Arrange lead wires ·Flexi., and install to the Main body, Be careful not to pinch them.

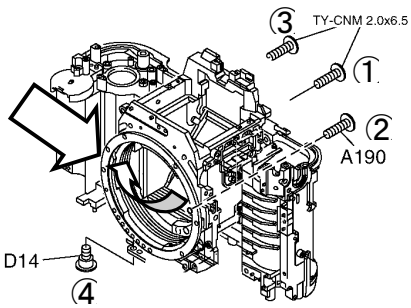
4) Push towards the side of Back cover key and tighten screws in numerical order ①,②,③,④. (A190:size 2X7.5)

5) 0-D11・・・Tighten 4 screws in the order of ①,②,③.

2-2.[Check] Mechanical back

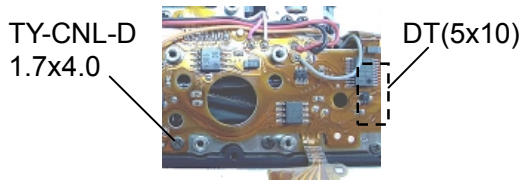
Tolerance : 45.46±0.02 mm





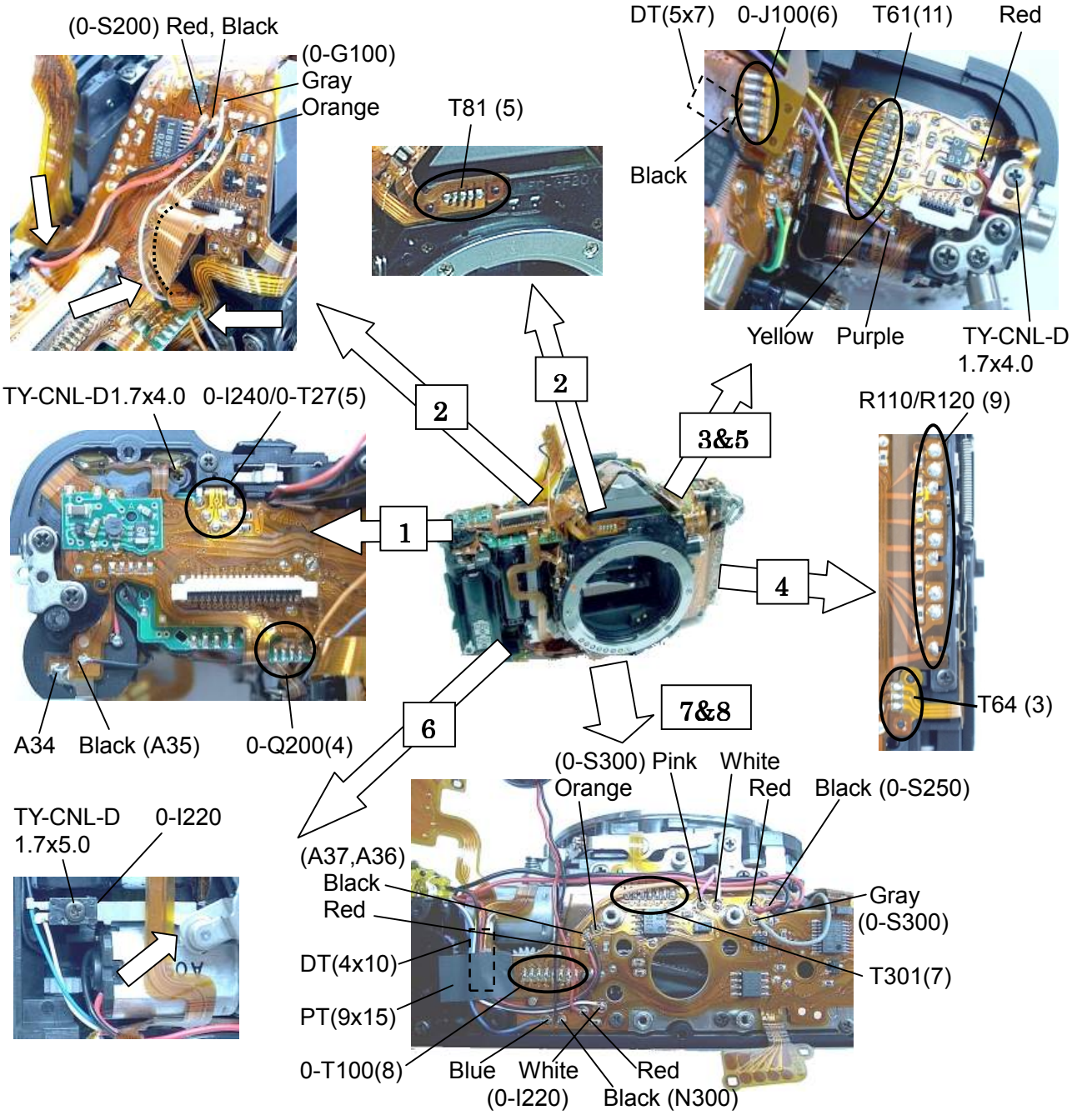
2-3.Install bottom side of 0-T100.

1) DT(5x10)･･･On the bottom base plate, Key box side.
2) TY-CNL-D1.4x4.0･･･ at around the hole of Tri-pod seat.



2-5.0-T100 and soldering.

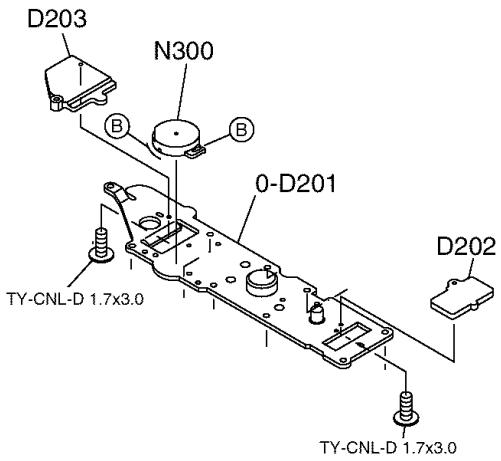
1) Top portion of grip side･･･Install A339-1 screw(TY-CNL-D 1.7X4.0), 4 lands on 0-Q200, 5 lands on 0-I240･0-T27, 1 land on A34, 1 lead wire(No.2, Black).
2) Slanted portion of right and front on Penta Prism.･･･4 lead wires on (0-G100･0-S200, 5 lands on T81, Flexi.joint portion on T71.
3) On the left Inclined plain of Penta Prism･･･ Adhere 0-J100 contact flexi.(DT 5x7), 6 lands(0-J100), 1 lead wire(No.24 Black).
4) DX contacts･･･9 contacts, 3 lands(T64)
5) Main Body left･･･ 1 screw, 11 lands(T61), 3 lead wires (No.8 Yellow, No.9 Purple, No.23 Red)
6) 0-I220･･･ 1 screw(Check SW/On).
7) Bottom side･･･15 lands(T301･0-T100 relay flexi.), 10 lead wires(A36,A37,0-I220,0-S250, 0-S300)
8) Arrange lead wires･･･DT(4x10), PT(9x15).



2-5. Installation of 0-D201.

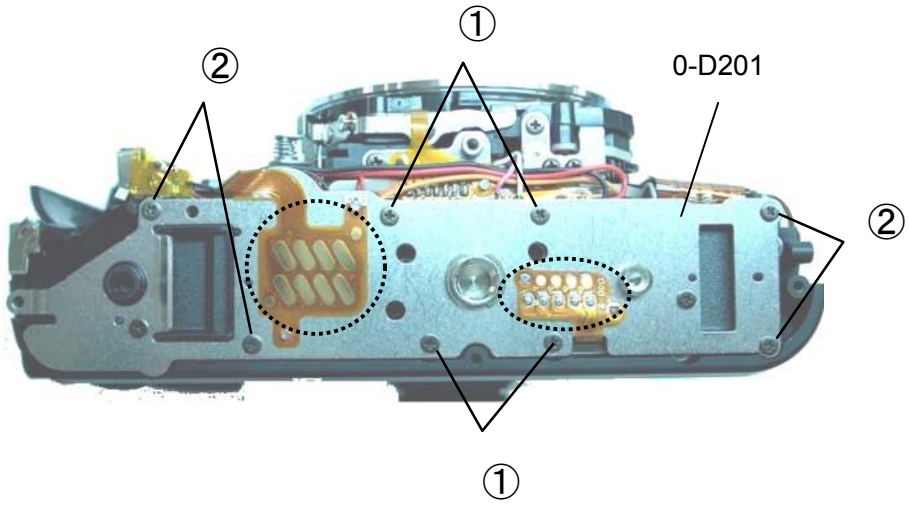
[Note] When replacing N300, cut the one lead on N300 at first.(Apply bond.)

1) Solder 2 lead wires and arrange them in front of the camera as shown in Figure below.



2) Tighten the screws by numerical (①TY-CNL-D1.7x4.0 x4、②CNL-D1.7x4.0 x4.) and diagonal order. (Do not use wrong one and not tighten the screw at wrong position.)

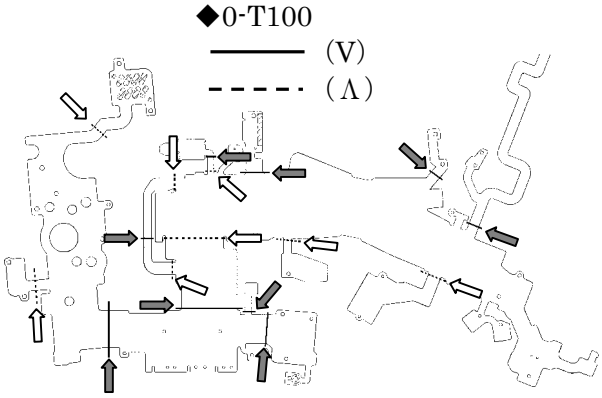
3) Position the land portions of 0-T100 Battery grip and adhere contact surface with DT (5x10).



3.Main P.C.Board.(0—T100)

[Disassembly Procedure]

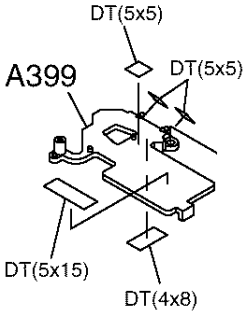
Peel off PT(28x60).and follow the sequence of assembly procedure in reverse manner.

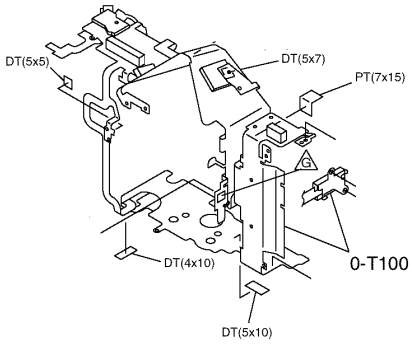


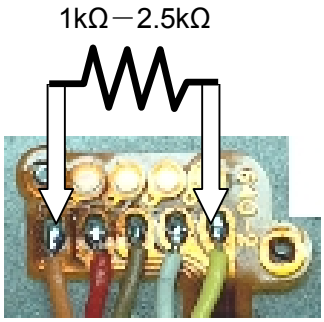
[Assembly Procedure]

3-1.Prepare brand new 0-T100.

1) 3 lead wires(No.8. Yellow・No.9.Purpl・No.24.Black)
2) I401(External release terminal) Solder 3 leads
   [Note] Do not over heat. No space between Flexi. and terminal should exist.
3) Adhere 5 pcs. of DT・PT(Double stick tape・Insulation tape) to 5 places.
4) Install A399(Base plate)
5) To check LED position in viewfinder, jump lead wires with resistance and make contact between MAIN SW land and solder land as shown in figure below.

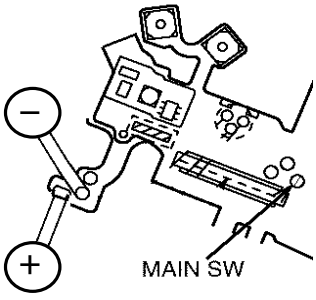


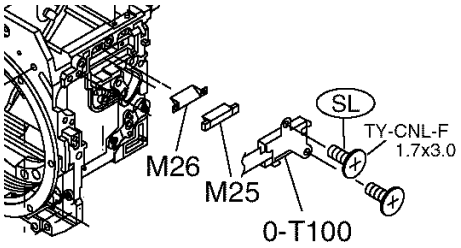


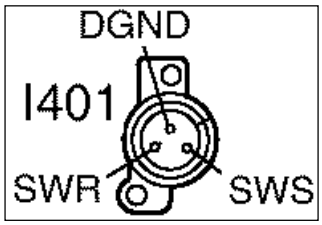


3-2.[Adjust]0-T100 LED indication position in view finder.

1) M26・M25.
2) Install viewfinder indication temporary.
3) Apply DC5V to the lead wires which were soldered temporary.
   [Note] Be careful not to make shortage.
4) Check to see the LED lights on when making contact between SWS and DGND at external release terminal.
   [Check]Look out viewfinder and make sure that vignetting, slant, faulty indication are not exist.
5) **[Adjust]** Loosen screw and move finder indication.
6) Apply screw lock on 2 screws.

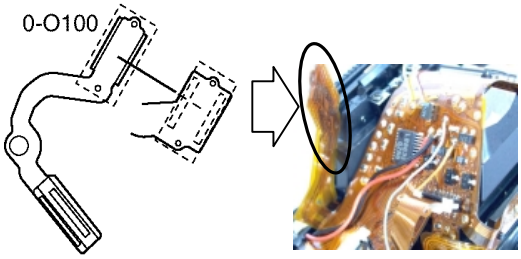






3-3.[Adjust] indicating position of 0-O100.

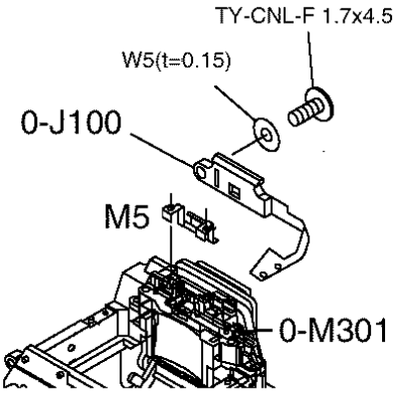
1) Align the holes on 0-O100 and 0-T100.
2) Solder 20 soldering lands.
3) Apply DC5V to the lead wires which were soldered temporary. (All LED should turn on.)
4) Look out viewfinder and make sure that vignetting, slant, faulty indication are not exist.
5) **[Adjust]** Loosen screw and move finder indication.
6) Make sure the tightening of screws and apply screw lock.



3-4. Remove 2 lead wires and resistance which were installed for testing purpose and remove solder on Main SW land.

3-5. 0-J100(Light receiving sensor)

1) Pull diopter adj. part of 0-M301 towards the left hand side.
2) Install M5 into 0-J100・・・W5(0.15), 1 screw.(for Temporary).



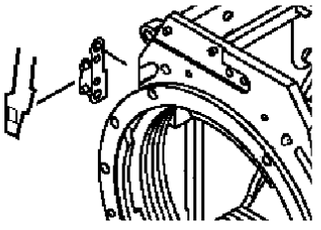
3-6. Install 0-T100. (0-A101 left hand side)

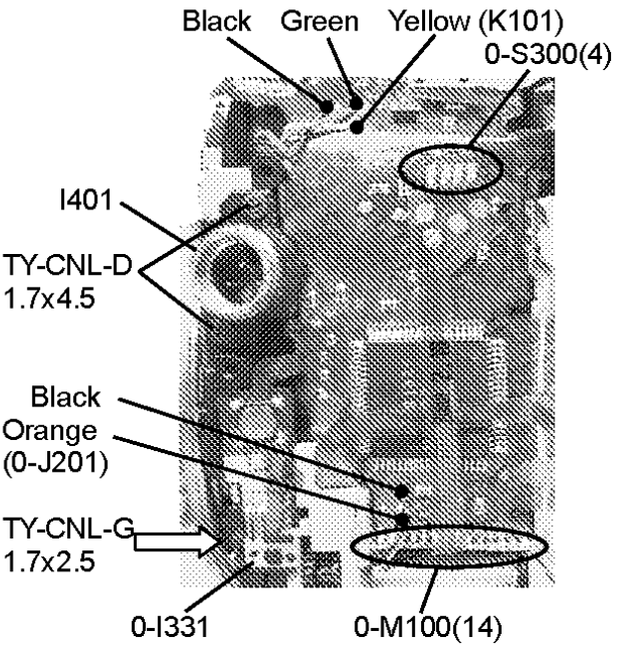
-- 0-A101 Left hand side --

1) I401(2 screws) ・ AF mode SW land.
   (Apply G151 onto the land.)
2) 0-I331(Apply G151 into the rectangular hole at the side.)
3) Solder 0-M100 lands(14 lands) ・ 0-S300 Flex.(4 lands).
4) 5 lead wires(Orange・Black from 0-J201,Green・Yellow ・Black from K101)

-- 0-A101 Right hand side --

5) Install mount LED portion.





4.Disassembly and Assembly of Front cover block.

[Disassembly Procedures]

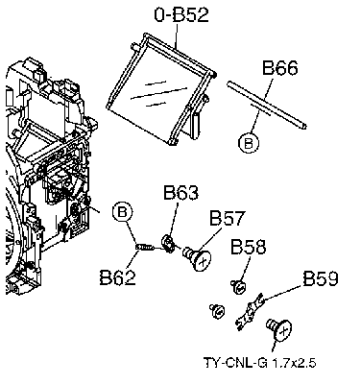
Follow the Assembly procedure in reversed manner.
When removing L2, mirror should set down(original position).
When removing 0-G100(Dia. control block), mirror should set "up" position.

[Assembly Procedures]

4-1. 0-A101 Front cover block and related parts.

4-2. 0-B52(Mirror sheet assy.)

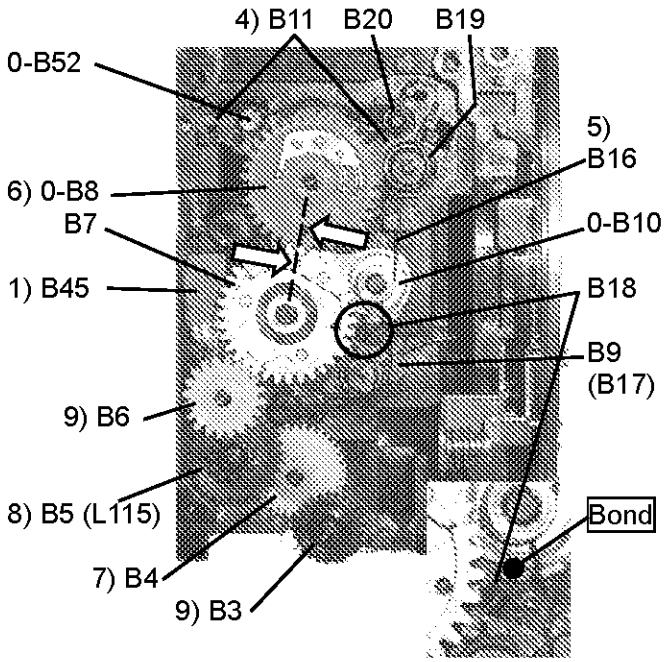
1) B58 x2(Temporary position: 1st Mirror---Tip portion on B58 should be downwards in front, 2nd Mirror---Tip portion on B58 should be downwards in rear.)
1) Install B66 on 0-A101 and on 0-B52 uniformity.
2) Apply bond in thickness of 1 cm at the center of B66 and fix 0-B52.

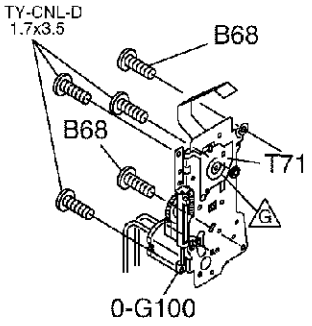


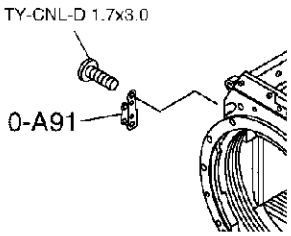
3) B63,B57.
4) B62・・・Apply bond at the hook of 0-A101.

4-3.0-G100(Diaphragm control block)

1) B45(Slip seat)
2) Apply G126 at 9 spots on gear shaft and 1 concave part.
3) Apply Evers(or similar material) B16,B17,B18,B19, B20 and whole spring. Apply G126 on each levers・gears.
4) Nip B11、B19、B20・・・shaft of 0-B52.
5) B9、0-B10、B16、B18
6) Install while aligning the holes of B7 and 0-B8.
7) B4
8) B5(Apply L115)
9) B3、B6
10)Apply G151 and extend as thin as possible on cord plate T71 of 0-G100.
11) Push down black slide plate on G100, and insert latch lever. 0-G100・・・B68 x2(2 in Rear side), 3 screws.
12) 0-A91(LED base plate assy.) with 1 screw.
13) Solder black lead wire.(T71-A105) Release the hook of latch lever.



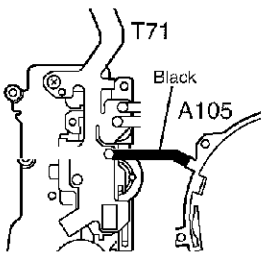




4-4.[Check] Checking Mirror function.
(Leave released condition for latch lever.)

1) Apply DC1.5V to the Mirror motor and check following items.
·1) Make sure that the Mirror functions smoothly.
·2) Make sure that the Shutter charge lever and Mirror drive lever move up and down smoothly.

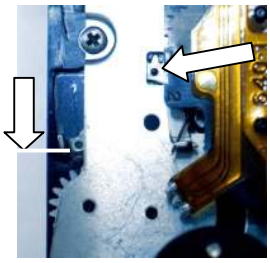
2) Set Mirror down position.・・・G100Dia.slide lever positions vertically, and white gear hole of G100 should face to the front.
3) When pushing 1st and 2nd mirror for about 3mm from rear side, both mirrors should return to the original position smoothly.



4) Set Mirror up position.･･･Shutter charge lever should move to the bottom side up to the position where the gear hole should be visible through the rectangular hole.

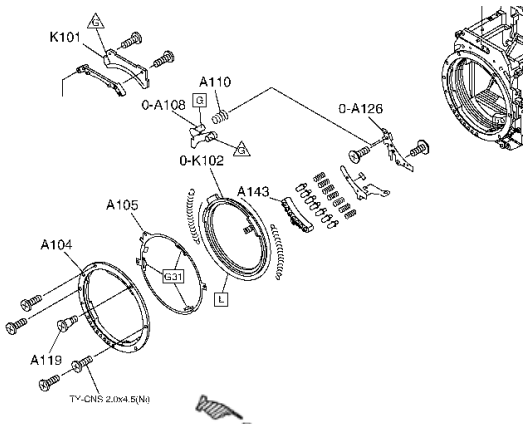
-1) When pushing down mirror sheet by the finger and set free, it should swing up instantly.

-2) When pushing down slide lever by the finger and set free, it should return to original position.



4-5. A104(Mount)

1) Wipe off the land on K101 and apply G151 as thin as possible.
2) A143 and 0-A126 related parts.
3) Apply L115 on O-K102.
4) Apply G31 on A105.
5) Apply G134,G151 on A110 and 0-A108.
6) A104･･･Retainer screw (A119), 4 screws.
7) 0-A121(Apply G126･L115), A133, 1 screw.
8) Apply G151 on the surface of A104 as thin as possible.



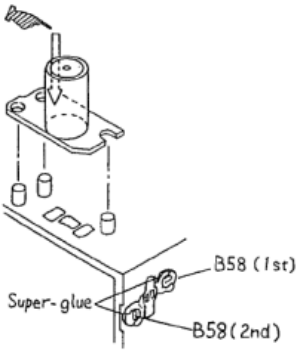
4-6.[Adjustment] Adjust Mirror Angle.

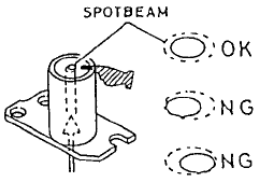
[Testers and jigs]

Optical regulator for MEF. (Mirror positioning scope･Mirror 45Degrees adjusting jig.), Mirror angle adjusting jig for 27640.

1) Mount Front cover block which is set at mirror down position onto Optical regulator. (To check mirror position, remove all finder related parts.)
2) **[Adjust and Check]**1st mirror and 2nd mirror position. The laser beam on the screen of Optical regulator should be within a tolerance listed below.

Tolerance….. X- axis (Right and left) : ± 15'
Y- axis (Top and bottom) : ±10'





Y - axis can be adjusted by turning B58(Mirror sheet receptacle). Aimed target must be "±0 ".

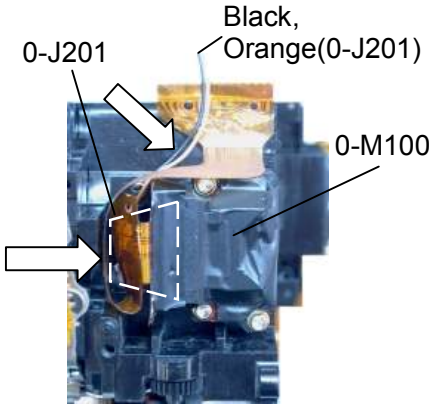
3) **[Adjust]** The position of 2nd Mirror.(Fine adjustment)

-1) When setting Front cover block onto Mirror adjusting jig as shown in fig.1, Laser beam emitted around 1mm hole on Mirror adjusting jig.
[Note] Do not look out Mirror adjusting jig from the top because laser beam may damage your eyes.

☆ When checking the position of beam, hold the jig at the mirror motor side by tweezers to minimize the play.

-2) **[Adjust]** Turn B52 at back side, as to Laser beam emitter the center of hole of jig.

-3) **[Check]** Activate mirror sheet by finger, to check the position of Laser beam does not change. After adjustment and checking, apply aron- alpha at 2 positions on B52.



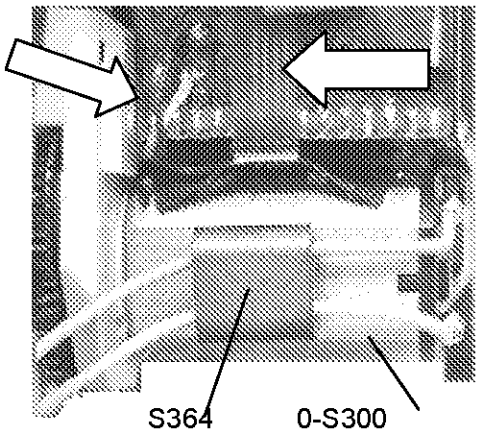
4-7. 0-J201(Flash Sensor block), 2 screws, Arrange lead wires.

4-8. 0-M100(AF Sensor block)

[Preparation] Hexagonal screw driver 1.5mm.

1) M104 x 3
2) Install 0-M100 while arranging Flexi. P.C.B.

3) W65(t=0.5) x3, M 103 x3
4) **[Adjust]** Install AF block for temporary.
Tighten M103 until it stops and then return for about 1.5 turns.
(If the final adjustment is over, apply screw lock between M103 and W65.)
[Note] There should not be any dust, hair or stain on AF window of 0-M100.



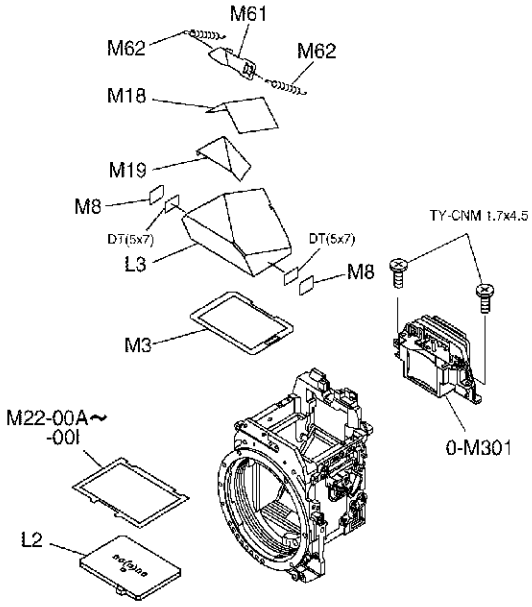
4-9. 0-S300(AF Motor block)

5) Adhere S364 onto 0-S300.
6) Arrange lead wires and Flexi. as shown in Fig.
7) 0-S300, 2 screws.(Apply screw lock.)
8) Arrange lead wires.

4-10. [Adjust・Check] AF joint stroke.

[Prepared material] Caliper
1) Set Focus mode lever at "AF". If 0-I331 is installed, set at the lowest one.
2) **[Check]** When removing finger from Mount lock lever, AF joint pin(0-S300) should be stuck out more than 1.2mm above body mount.
3) **[Check]** While pushing mount lock lever and mount lock pin become same height with camera mount, AF joint pin should not exceed the surface of camera mount.
[Adjust] Adjusting can be done by turning eccentric screw of 0-A121(Joint connecting lever). Apply screw lock on the eccentric screw.

5) **[Check]** After depressing mount lock lever and then set free, 0-A121 should return smoothly.



4-11. L3・L2(Penta Prism・Focus screen)

1) M3
2) L3 (M8 x2,M18,M19) ・・・Loosen M16 x2 beforehand.
3) M61、M62 x2(Hook M61 to M63)
4) 0-M301、2 screws.
5) M22(Install –00C for temporary adjustment), L2

4-12. [Adjust・Check] Focus in finder・Parallax.

[Preparation] Collimator、Focus master lens.
1) Adjust diopter by turning 0-M301 at center of frame.
2) **[Adjust・Check]** Parallax

Tolerance : Left & Right less than 1° **Horizontal less than 1° 50′**

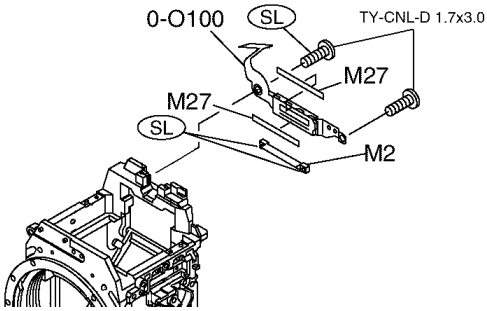
Horizontal Parallax can be adjusted by M16 x2.
Apply screw lock onto M16.
3) **[Adjust]** View finder focus.
Adjusting washer (M22-000A～I).

Tolerance : <u>0±0.04 mm</u>(Center φ10mm) **<u>0±0.07 mm</u>(Other than center)**

4).Make sure that dust, hair and stain should not be observed on focus screen and on the Penta prism.

4-13. 0-O100(Bottom LCD block in view finder)

1) M2･･･Install securely and apply screw lock or adhesive bond at 2 positions shown in Fig.
2) 0-O100･M27 x2, 2 Screws.
   Tighten temporary. When installing 0-T100, adjustment of position is required.

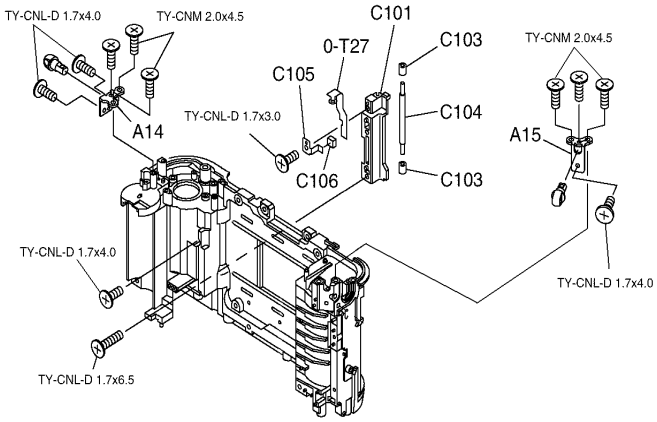


5.Disassembly& Assembly of Main Body.

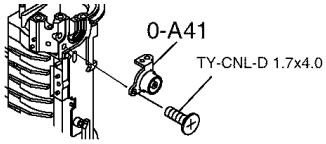
[Disassembly procedure]

[Assembly procedure]

5-1. C101(Reflector base)



1) Adhere C106 onto C105 taking care not to overflow.
2) Install photo reflector part of 0-T27 into the Rectangular hole of C101.
   [Note] Dust, hair and stain should not be exist on Photo reflector.
3) Install C105 into C101 tightening with screw.
4) Install C103 x2,C104 into C101.
5) **[Check]**0-A20 should be installed into main body securely.
6) Insert Flexi. from 0-T27 into rectangular hole on Main body.
7) Install C101 into Main body. 2 screws.(The shorter one on top)
8) **[Check]** C103 should turn smoothly.



5-2.A14･A15(Strap hook base plate)

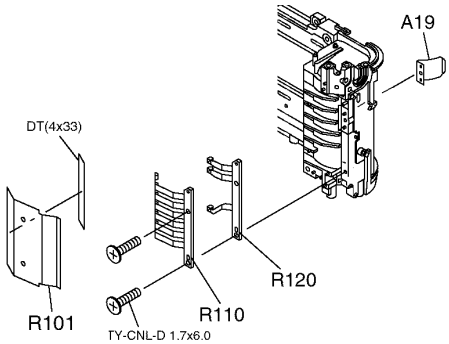
7screws(From upper side---TY-CNM, at the Side---TY-CNL-D).

5-3.0-A41(X terminal base plate)

Arrange red lead wire and tighten with 1 screw.

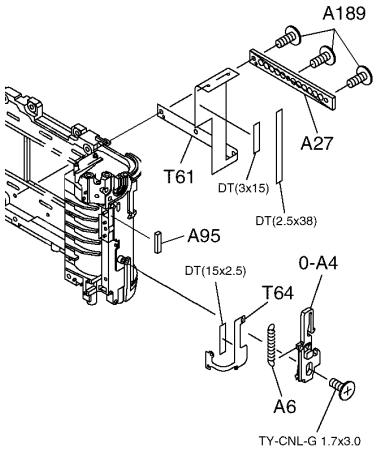
5-4.DX contact

1) A19･･･Insert into the square hole.
2) R110･R120, 2 screws.
   [Check] When pushing DX contact by tweezers, contact should not hang on the Main body.
3) Adhere R101 by DT.



5-5.0-A4(Back door key)

1) A95
2) Apply L115 at 2 positions on Main body.
3) T64･･･Apply G151 on the land of back door SW.
   Wipe off SW land contact for mid-roll rewind.
4) 0-A4, 1 screw, A6

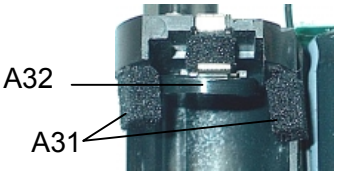


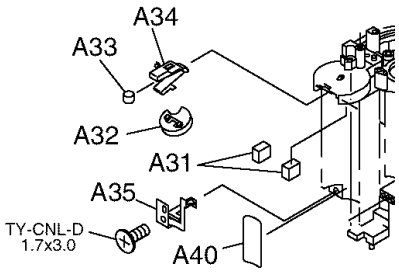
5-6.T61(Data flex)

1) Insert T61 into square hole of main Body.
2) Install contact portion of T61. A27、A189 x3
3) Align soldering portion of T61 with positioning post and adhere DT.

5-7. Electric contact and related parts.

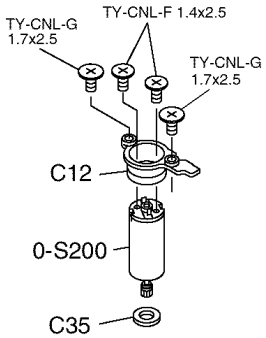
1) Install A35 with 1 screw･･･Insert 2 black lead wires into main body.
2) Arrange 2 lead wires. A40.
3) A34･A33･A32
4) A31 x2･･･Adhere to the Main body. Do not touch with A32.





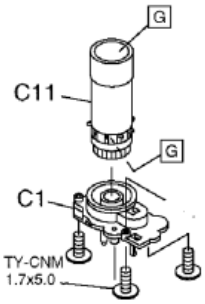
5-8. 0-S200 (Winding Motor)

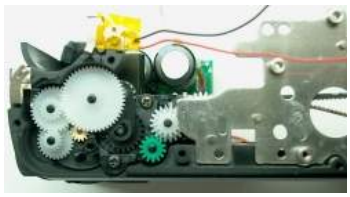
1) C35･0-S200, C12, 2 screws･･･Pass 2 lead wires through C12.
   (Black lead wire connect to Battery chamber)
2) Apply G126 onto the gear teeth of 0-S200.
3) Tighten film retainer with 2 screws while avoiding 0-T27 flex from being damaged.



5-9.C1･C2(Winding base plate A .B)

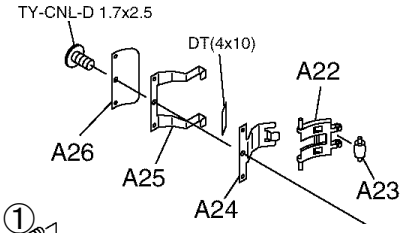
1) C11･･･Apply G134 inner wall at top and button.
   Make sure not to scratch film retainer Plate
2) Install C1 securely. 3 retainer screws.
3) Make sure that C11 turns smoothly.
4) Apply G126 at 6 positions of gear shafts.
5) Install gears.
6) Install C2 from the hook portion and tighten with 1 screw.





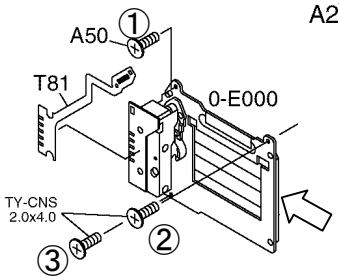
5-10. A22(Film guide) and related parts.

Install as shown in fig. and adhere A26 securely aligning screw hole and post on A26.



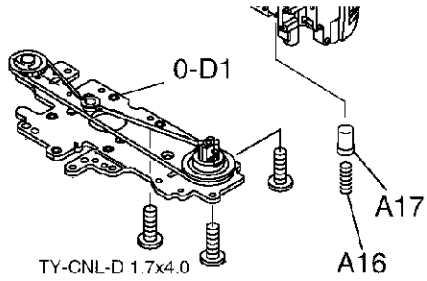
5-11.0-E000(Shutter block)

1) Install mechanical portion first.
2) Push towards side of grip and tighten A50 for temporarily.
3) Tighten 2 screws for temporarily and then tighten screws in the numerical order.(①、②、③)
4) To avoid troubles for shutter curtain, Back door should be installed.



5-12.0-D1(Bottom base plate)

1) A17、A16
2) 0-D1, 3 screws･･･Gear teeth should engage properly.

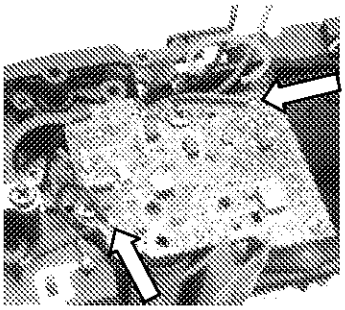


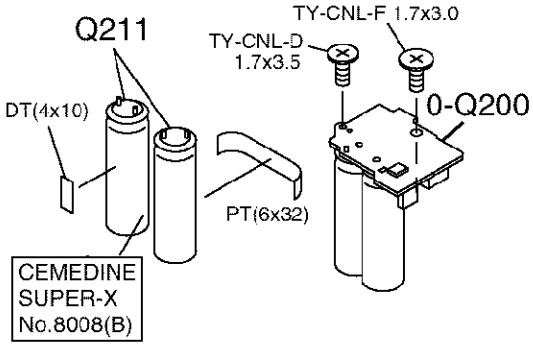
5-13.[Check] Winding･Rewinding

Apply DC 5.5V to the lead wires of 0-S200,
check the function of winding and rewinding.

5-14.0-Q200(Flash PCB)

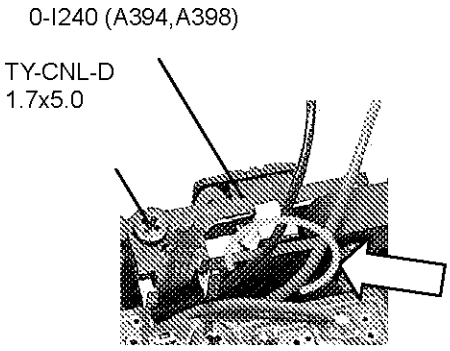
1) Twist two leads from Q211 and fix with PT.
2) Apply Super X between Q211.
3) 0-Q200, 2 screws･･･Be careful not to pinch lead wires.
4) 2 lead wires(Red and Black)･･･Solder and arrange lead wires.





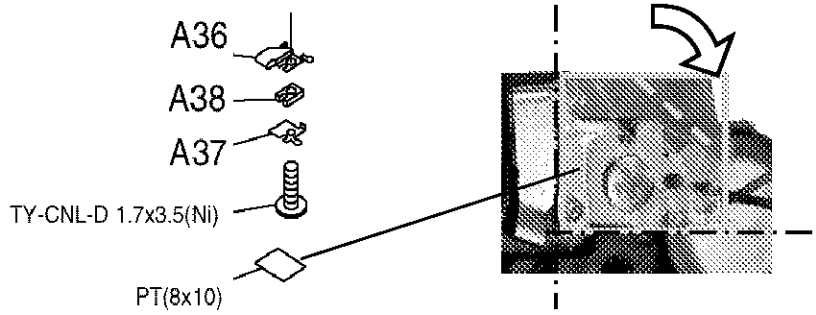
5-15. 0-I240(TV dial hold lever SW)

1) Check the function of SW ON-OFF.
2) 0-I240, 1 screw･･･SW OFF,
   Place flexi at the 2 soldering portion.
3) Place 2 lead wires from 0-S200 underneath
   the 2 soldering portion.

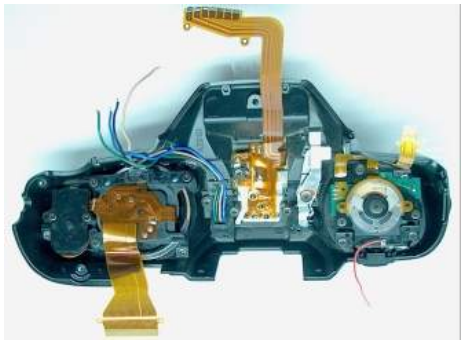


5-16.Battery cover SW and related parts.

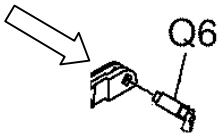
1) Install as shown in figure.(Be careful the position of PT)
2) **[Check]** Make sure that the SW is making proper contact and
   A37 has good contact pressure.



6.Top cover(0-A301)

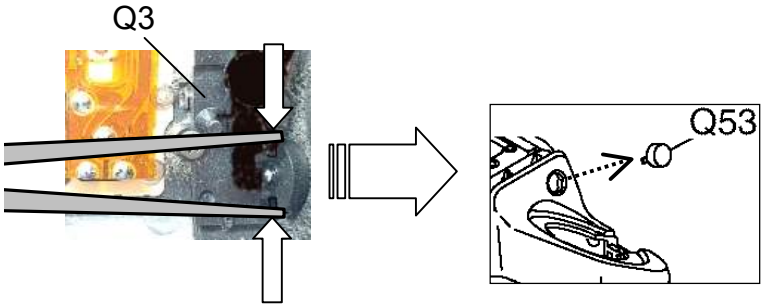


[Disassembling Procedure]
Disassembly carefully with the notice described below in opposite sequence of [Assembly Procedure 0-A301].
Q6(Flash shaft, b) : To prevent destruction, remove Q6 while pushing opposite side of SW contact.



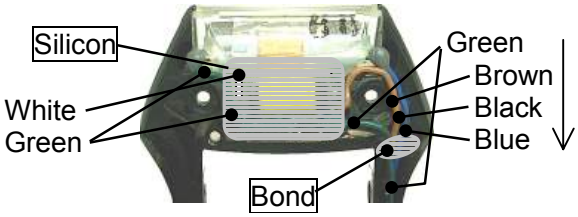
Q3(Flash base, left) :

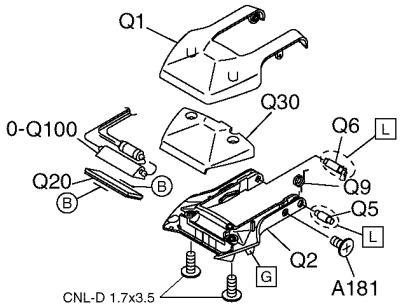
1) Remove Q53 while picking 2 claws on flash button with tweezers. (Replace claws if it is deformed.)
2) Remove Q3 with 2 screws.



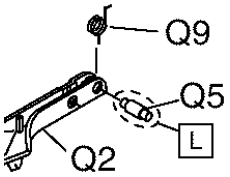
[Assembling procedures-1]
<Major parts of 0-A301>
6-1.Q2

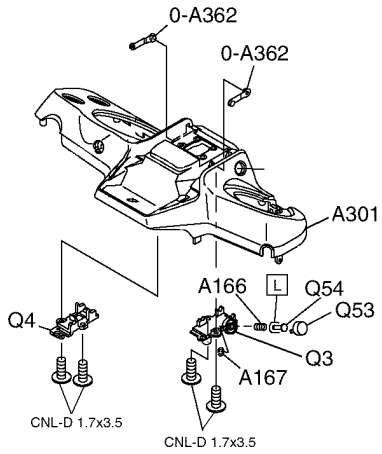
1) Q2･Q20･0-Q100
2) Arrange 4 lead wires, Apply silicon.





3) Q30･Q1, tighten with 2 screws temporarily ･･･install before hardening of silicon.
4) Pass 4 lead wires through the hole of main body.
5) Remove Q1.
6) 0-A362 x2(F. arm, Chrome post should face outside.)
7) Pass Q9(Bent portion must be top),Q5(Flash shaft left).

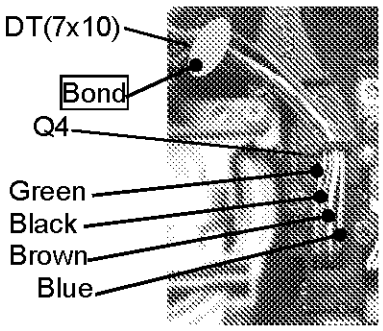




8) Q53,Q3(A166,Q54), 2 screws･･･Hook up top portion of Q9 onto Q2.
[Note] Be careful at disassembly. Refer to the disassembly procedure.
9) Q1, A181, 2 screws ･･･Tighten with A181 while checking No space between 2Q1 and Q2 exist.
10) Q6(Apply L115)･･･While holding Q1 and Q2, pass Q6 through the square hole on Q2.
[Note] Be careful at disassembly. Refer to the disassembly procedure.
11) Q4, 2 screws･･･Pass 4 lead wires through the square hole.

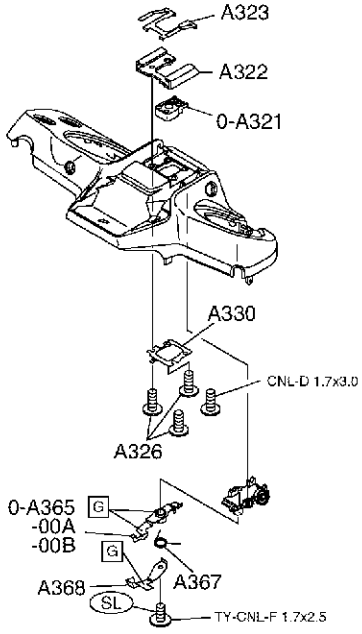
6-2.Arrange lead wires(Flash should be pop up condition.)

1) Slacken 4 lead wires with space for about the size of one tooth pick and put them into the space in the order of Blue, Brown, Black, Green from inner side and should be retained by Q4.
2) Arrange lead wires on DT(7x10) and fix with bond.



6-3.A322(Accessory shoe)

1) 0-A321,A330・・・Install with CNL-D1.7x3(Rear left side) and A326 x3. A326 is lock processed screw.:
[Note] When re-using this screw, apply screw lock.
2) A323(Hot shoe spring)



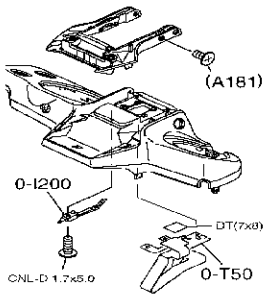
6-4.0-A365(F. stopper lever)

1) Apply G134 to the 凸 portion of 0-Q3, A368, A301.
2) A367, A368, 1 screw(Apply screw lock).
3) [Check] Check the function of flash pop-up and hooking. The gap between the top cover and Q1 cover should be within 0.3mm.

[Assembling procedures-2]

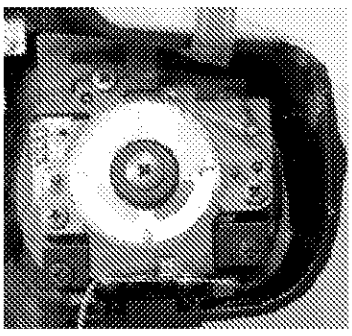
6-5. 0-I200(Flash SW)

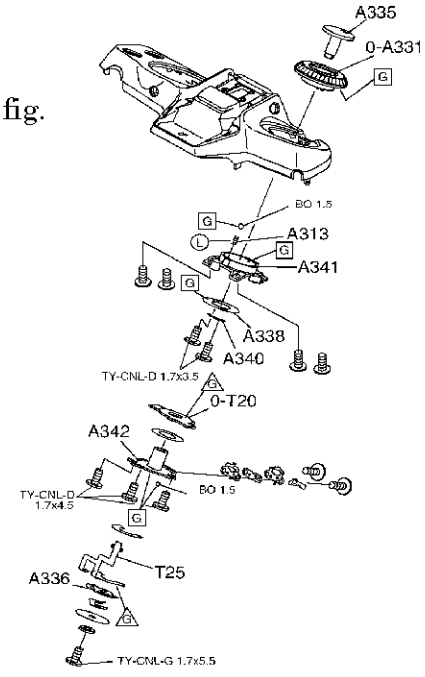
1) 0-I200, 1 screw.
2) **[Check]** Pop-up the flash while holding by finger and set free gradually. The SW should turn ON when the screw head(A181) become visible completely at the side plate.
3).Adhere DT(7x8) onto A301.
4) 0-T50(Hot shoe circuit block)・・・Solder 7 points. Be careful not to overheat.
5) Adhere 0-T50 with DT(7x8).



6-6.0-A331(Exposure compensation dial)

1) A313,BO1.5
2) 0-A331,A338・A340, 2 screws・・・Apply G134 to indicated in fig.
3) A342,3 screws・・・Apply G151 on the land of 0-T20.
4) A335(AEB dial) and related parts,1 screw, BO 1.5.
・・・Set A335 at ± 0. Apply G151 on the land of T25.
Underneath the protruded parts of A336(inside).
Front portion of tapered part of A345.





6-7.0-A375(TV dial assy.)

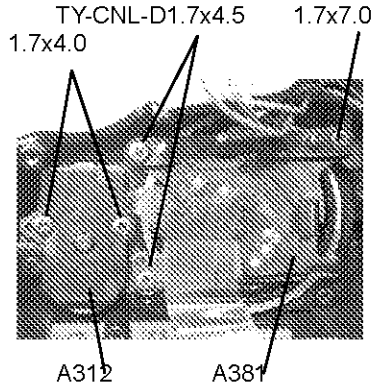
1) A379(For temporary adjustment, use –00D(t=0.1), A378.
   Round edge side should face front.

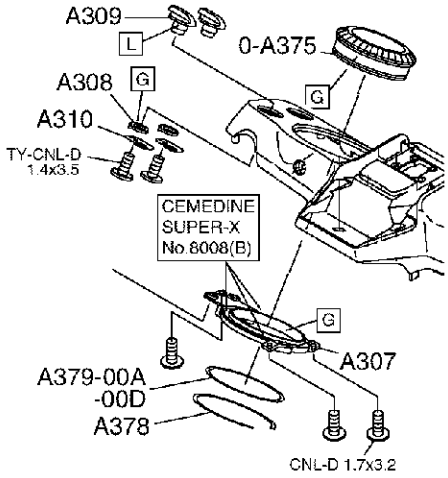
6-8.A309(Mode selecting lever)

1) A309,A308,A310(2 pcs. each), 2 screws.
2) A311

6-9. LCD indication portion

1) Apply G151 on the land of 0-T67.
2) O201・0-T67・A381・A312 and related parts, 5 screws.



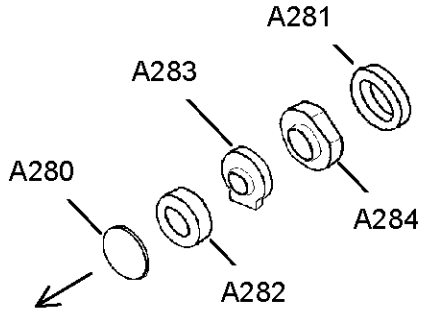


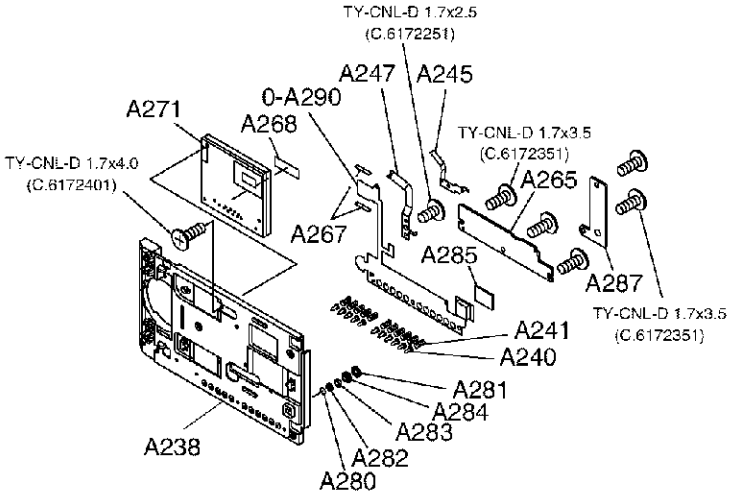
7.Back cover (0-A201)

[Assembly procedures]

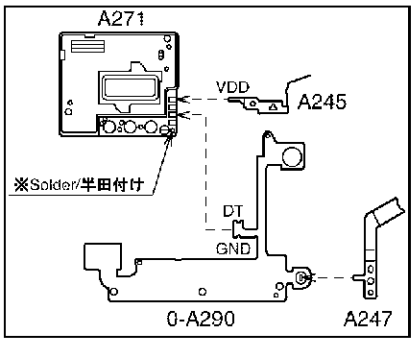
7-1. Assembly of A238 and related parts.

1) A271(Date module)・A268, 1 screw.
2) A245,A247, 1 screw.
3) Install 5 parts for Data imprinting.
   (Make sure No hair, No stain exist)



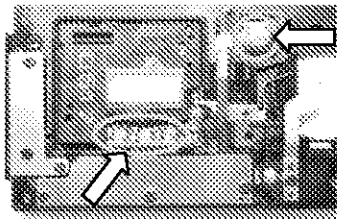


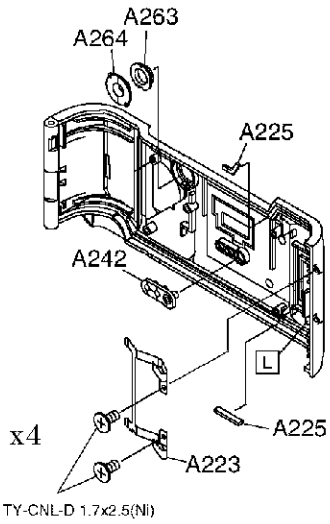
4) Set 0-A290・A285 and install with A287・・・2 screws.
5) A240・A241 (x11),0-A290,A265, 3 screws.
6) Solder 5 points.(→)
7) Adhere A267 x2 to the both sides of Button SW land.



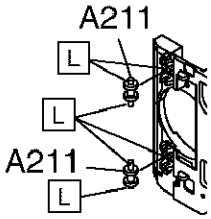
7-2. Assembly of A238

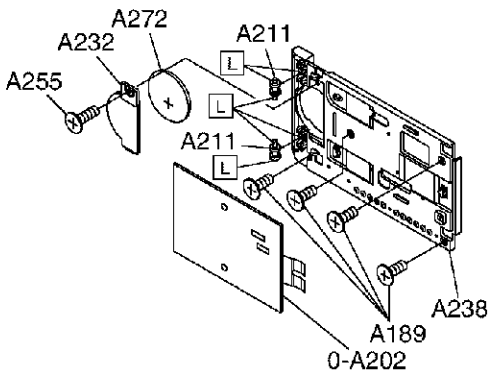
1) Wipe off 4 lands with mixed chemicals for cleaning.





2) A263・A264(AF button・SW),A242(Date button)
3) A238(Back cover base plate),A189(Cover retainer screw i) x4
4) A223(Cartridge retainer spring), 2 screws(Ni)
5) A225(Light seal) x2・・・adhere securely.
6) A272(Battery for date),A232(Battery cover),A255(Batt. cover retainer screw).
7) Apply L 115・・・key board, Installing position of A211(6).
8) A211(Roller) x2・・・ The longer shaft side should face inside.
9) 0-A202(Pressure plate assy.)
   For checking LED of Data imprinting,
   Please refer to「1-13.[Check]」.





Specification

Battery Life

Type of Batteries(pcs.)	CR2 (2)		*LR6 (4)	*FR6 (4)	
Shooting cond.＼degree	20℃/68° F	-10℃/14° F	20℃/68° F	20℃/68° F	-10℃/14° F
Regular(No flash used)	Aprx.50rolls	Aprx.30rolls	Aprx.95rolls	Aprx.150r.	Aprx.100
Flashphoto(Flash50%)	Aprx.15rolls	Aprx.10rolls	Aprx.28rolls	Aprx.50r.	Aprx.35r.
〃 (Flash 100%)	Aprx.8 rolls	Aprx. 5rolls	Aprx.14rolls	Aprx.30r.	Aprx.20r.
Bulb exposure	Aprx.8h.	Aprx. 2h.	Aprx.18h.	Aprx.25h.	Aprx.17r.

＊ 24 exposure film, with a brand new set of batteries.

① The numbers may change by shooting condition and quality of battery. (Only for reference)

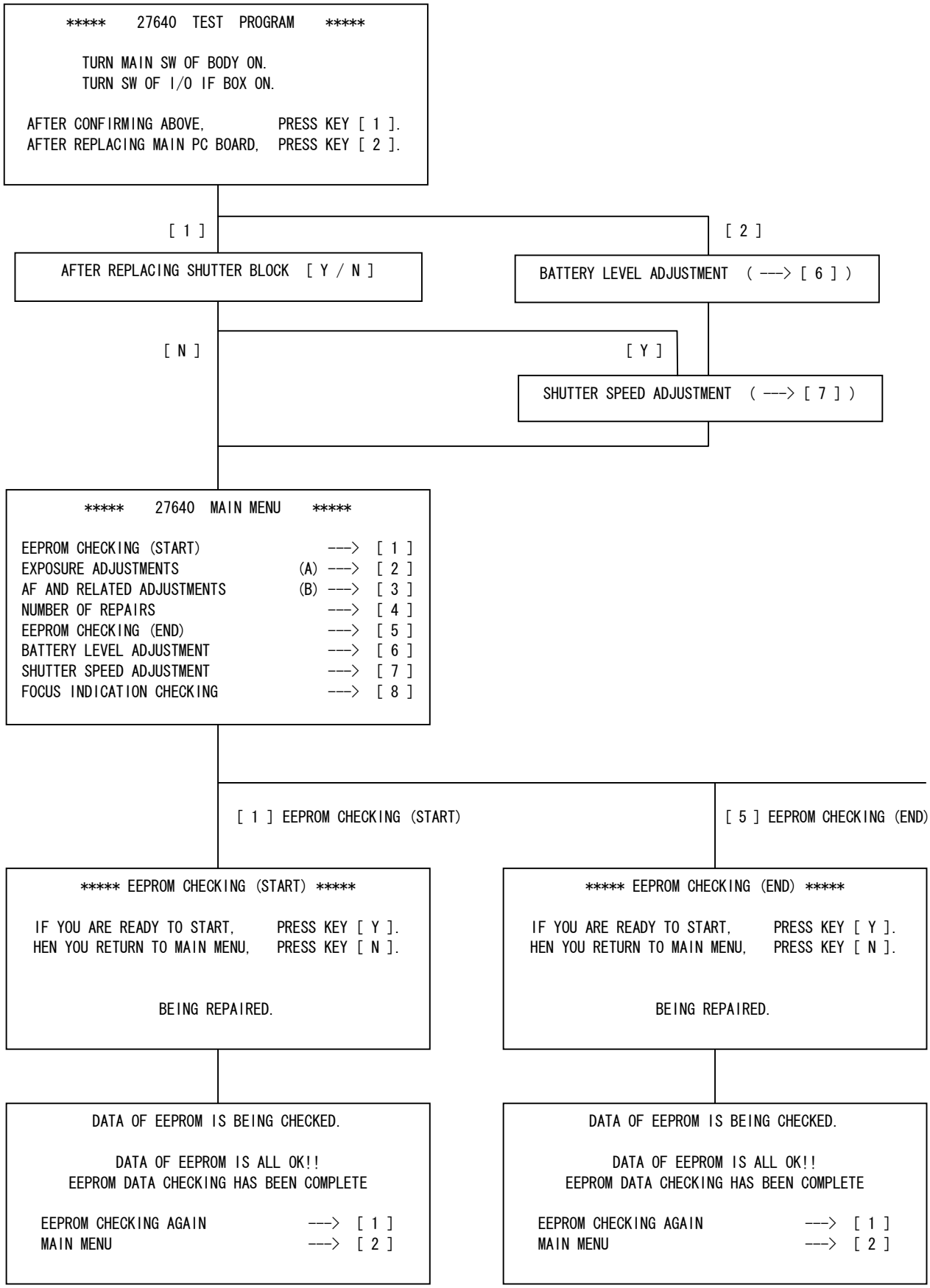
② *AA alkaline Battery(LR6)・Lithium Battery(FR6) are used with Battery grip.

Quiescence・Consumption current

Main SW/off (Back cover closed)	Less than 50μA
Main SW/on(light meter off) Lens mounted or not mounted.	Less than 300μA
Light Metering on.	Less than 200mA
Exposure (Bulb)	Less than 250mA
AF motor On (Average)	Less than 800mA
While winding (Average)	Less than 1000mA
While rewinding	Less than 600mA

＊Set regulated power supply(Capacity 3A and over) at 5.5±0.05V.

[27640 PROGRAMMED SOFTWARE FLOW CHART]


***** 27640 TEST PROGRAM *****
TURN MAIN SW OF BODY ON.
TURN SW OF I/O IF BOX ON.
AFTER CONFIRMING ABOVE, PRESS KEY [1].
AFTER REPLACING MAIN PC BOARD, PRESS KEY [2].
[1]
[2]
AFTER REPLACING SHUTTER BLOCK [Y / N]
BATTERY LEVEL ADJUSTMENT (---> [6])
[N]
[Y]
SHUTTER SPEED ADJUSTMENT (---> [7])
***** 27640 MAIN MENU *****
EEPROM CHECKING (START) ---> [1]
EXPOSURE ADJUSTMENTS (A) ---> [2]
AF AND RELATED ADJUSTMENTS (B) ---> [3]
NUMBER OF REPAIRS ---> [4]
EEPROM CHECKING (END) ---> [5]
BATTERY LEVEL ADJUSTMENT ---> [6]
SHUTTER SPEED ADJUSTMENT ---> [7]
FOCUS INDICATION CHECKING ---> [8]
[1] EEPROM CHECKING (START)
[5] EEPROM CHECKING (END)
***** EEPROM CHECKING (START) *****
IF YOU ARE READY TO START, PRESS KEY [Y].
HEN YOU RETURN TO MAIN MENU, PRESS KEY [N].
BEING REPAIRED.
***** EEPROM CHECKING (END) *****
IF YOU ARE READY TO START, PRESS KEY [Y].
HEN YOU RETURN TO MAIN MENU, PRESS KEY [N].
BEING REPAIRED.
DATA OF EEPROM IS BEING CHECKED.
DATA OF EEPROM IS ALL OK!!
EEPROM DATA CHECKING HAS BEEN COMPLETE
EEPROM CHECKING AGAIN ---> [1]
MAIN MENU ---> [2]
DATA OF EEPROM IS BEING CHECKED.
DATA OF EEPROM IS ALL OK!!
EEPROM DATA CHECKING HAS BEEN COMPLETE
EEPROM CHECKING AGAIN ---> [1]
MAIN MENU ---> [2]

***** MAIN MENU *****

[2] EXPOSURE ADJUSTMENTS

***** SELECT AE TYPE *****

TYPE 1 (LV6,8,10,12,16) ---- [1]
TYPE 2 (LV6,9,12,15) ---- [2]

[Note]: Select 1 or 2 for your light source.

***** 27640 < A GROUP > *****

AV AND BV ADJUSTMENTS ---> [1]
TTL FLASH QUENCH SIGNAL ADJUSTMENT ---> [2]
MAIN MENU ---> [3]

***** AV AND BV ADJUSTMENTS *****

MOUNT F-8 SET RING ONTO CAMERA.
ATTACH LIGHT MEASURING MASTER LENS
FOR LX WITH WIDE OPENED POSITION.

SET LIGHT SOURCE TO LV 6.

AFTER CONFIRMING ABOVE, PRESS KEY [Y].
WHEN YOU RETURN TO FRONT MENU, PRESS KEY [N].

SET LIGHT SOURCE TO LV 16 (or 15).

AFTER CONFIRMING ABOVE, PRESS KEY [Y].
WHEN YOU RETURN TO FRONT MENU, PRESS KEY [N].

AV AND BV ADJUSTMENTS HAVE BEEN COMPLETED.

AV AND BV ADJUSTMENTS AGAIN ---> [1]
NEXT OF TTL FLASH QUENCH SIGNAL ADJUSTMENT---> [2]
A GROUP MENU ---> [3]

***** TTL QUENCH SIGNAL ADJUSTMENT *****

MOUNT F-8 SET RING ONTO CAMERA.
ATTACH LIGHT MEASURING MASTER LENS
FOR LX WITH WIDE OPENED POSITION.

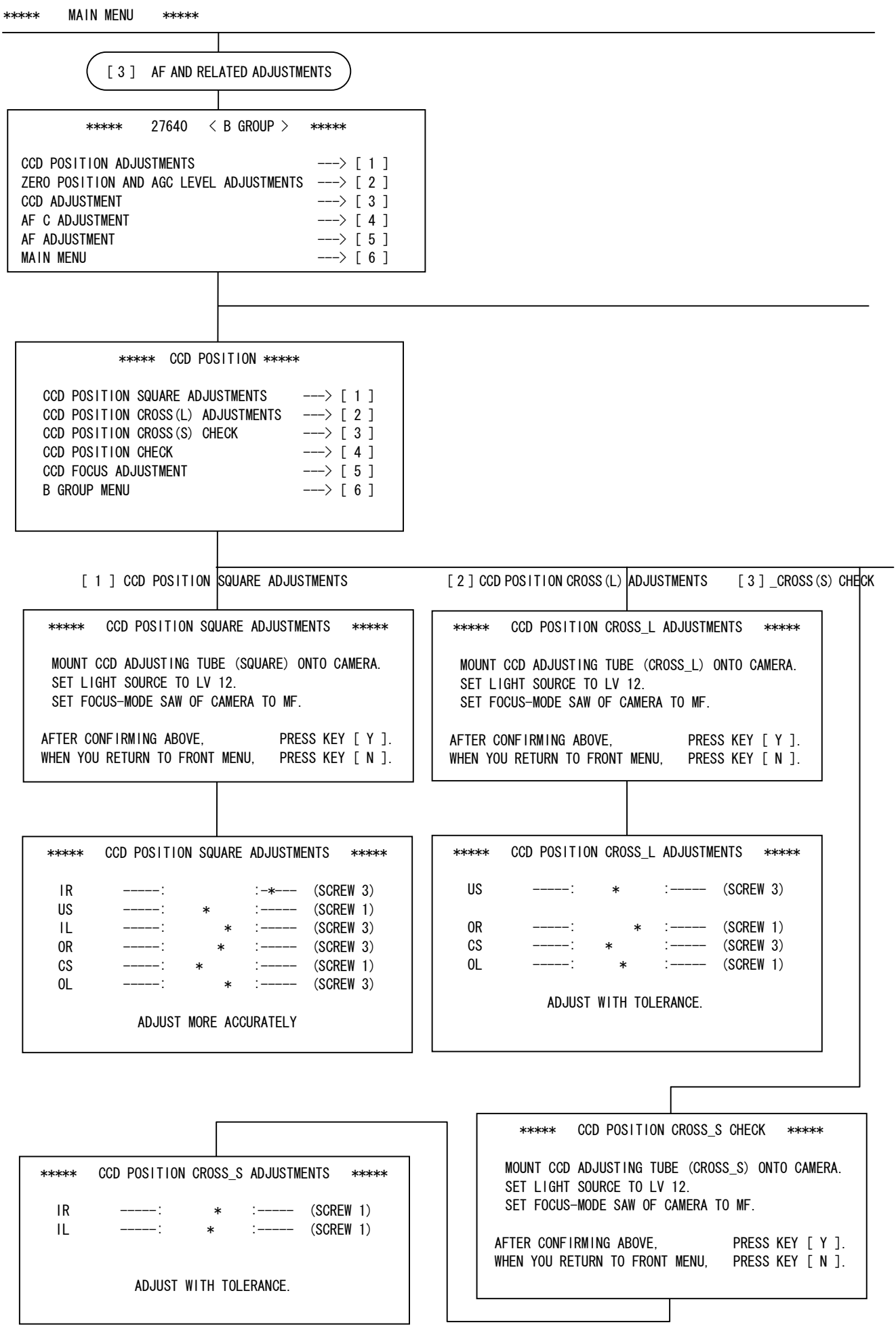
SET LIGHT SOURCE TO LV 8 (or 9).

ATTACH TTL ADJUSTING BACK COVER ONTO CAMERA.

AFTER CONFIRMING ABOVE, PRESS KEY [Y].
WHEN YOU RETURN TO FRONT MENU, PRESS KEY [N].

TTL QUENCH SIGNAL ADJUSTMENT HAS BEEN COMPLETED.

TTL QUENCH SIGNAL ADJUSTMENT AGAIN ---> [1]
A GROUP MENU ---> [2]
B GROUP MENU ---> [3]


***** MAIN MENU *****
[3] AF AND RELATED ADJUSTMENTS
***** 27640 < B GROUP > *****
CCD POSITION ADJUSTMENTS ---> [1]
ZERO POSITION AND AGC LEVEL ADJUSTMENTS ---> [2]
CCD ADJUSTMENT ---> [3]
AF C ADJUSTMENT ---> [4]
AF ADJUSTMENT ---> [5]
MAIN MENU ---> [6]
***** CCD POSITION *****
CCD POSITION SQUARE ADJUSTMENTS ---> [1]
CCD POSITION CROSS(L) ADJUSTMENTS ---> [2]
CCD POSITION CROSS(S) CHECK ---> [3]
CCD POSITION CHECK ---> [4]
CCD FOCUS ADJUSTMENT ---> [5]
B GROUP MENU ---> [6]
[1] CCD POSITION SQUARE ADJUSTMENTS
[2] CCD POSITION CROSS(L) ADJUSTMENTS
[3] _CROSS(S) CHECK
***** CCD POSITION SQUARE ADJUSTMENTS *****
MOUNT CCD ADJUSTING TUBE (SQUARE) ONTO CAMERA.
SET LIGHT SOURCE TO LV 12.
SET FOCUS-MODE SAW OF CAMERA TO MF.
AFTER CONFIRMING ABOVE, PRESS KEY [Y].
WHEN YOU RETURN TO FRONT MENU, PRESS KEY [N].
***** CCD POSITION CROSS_L ADJUSTMENTS *****
MOUNT CCD ADJUSTING TUBE (CROSS_L) ONTO CAMERA.
SET LIGHT SOURCE TO LV 12.
SET FOCUS-MODE SAW OF CAMERA TO MF.
AFTER CONFIRMING ABOVE, PRESS KEY [Y].
WHEN YOU RETURN TO FRONT MENU, PRESS KEY [N].
***** CCD POSITION SQUARE ADJUSTMENTS *****
IR -----: :-*--- (SCREW 3)
US -----: * :----- (SCREW 1)
IL -----: * :----- (SCREW 3)
OR -----: * :----- (SCREW 3)
CS -----: * :----- (SCREW 1)
OL -----: * :----- (SCREW 3)
ADJUST MORE ACCURATELY
***** CCD POSITION CROSS_L ADJUSTMENTS *****
US -----: * :----- (SCREW 3)
OR -----: * :----- (SCREW 1)
CS -----: * :----- (SCREW 3)
OL -----: * :----- (SCREW 1)
ADJUST WITH TOLERANCE.
***** CCD POSITION CROSS_S CHECK *****
MOUNT CCD ADJUSTING TUBE (CROSS_S) ONTO CAMERA.
SET LIGHT SOURCE TO LV 12.
SET FOCUS-MODE SAW OF CAMERA TO MF.
AFTER CONFIRMING ABOVE, PRESS KEY [Y].
WHEN YOU RETURN TO FRONT MENU, PRESS KEY [N].
***** CCD POSITION CROSS_S ADJUSTMENTS *****
IR -----: * :----- (SCREW 1)
IL -----: * :----- (SCREW 1)
ADJUST WITH TOLERANCE.

***** MAIN MENU *****

***** < B GROUP > *****

***** CCD POSITION *****

[4] CCD POSITION CHECK

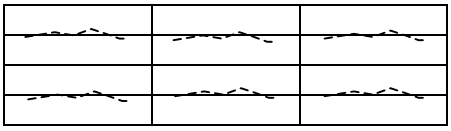
***** CCD POSITION CHECK *****

MOUNT F ZOOM LENS 35-80 (41280) ONTO CAMERA.
SET FOCUS-MODE SW OF CAMERA TO MF.
TURN FOCUSING RING OF LENS
TO MINIMUM DISTANCE 0.4M (1.3FT).
SET ZOOMING RING OF LENS TO TELE END (80MM).
SET LIGHT SOURCE TO LV 12.

AFTER CONFIRMING ABOVE, PRESS KEY [Y].
WHEN YOU RETURN TO FRONT MENU, PRESS KEY [N].

***** CCD POSITION CHECK *****

[IL]
[OL]



[5] CCD FOCUS ADJUSTMENT

***** SELECT MASTER LENS TYPE *****

TYPE 1 (INFINITIVE FOCUS) ---- [1]
TYPE 2 (2m FOCUS) ---- [2]

***** CCD FOCUS ADJUSTMENT *****

(TYPE 1)
SET CHART IN COLLIMATOR OF OPTICAL REGULATOR
TO VERTICAL POSITION.
MATCH CENTER SPOT AF FRAME IN CAMERA WITH THE CHART.
SET MASTER LENS TO ZERO POSITION.
SET FOCUS-MODE SW OF CAMERA TO MF.

AFTER CONFIRMING ABOVE, PRESS KEY [Y].
WHEN YOU RETURN TO FRONT MENU, PRESS KEY [N].

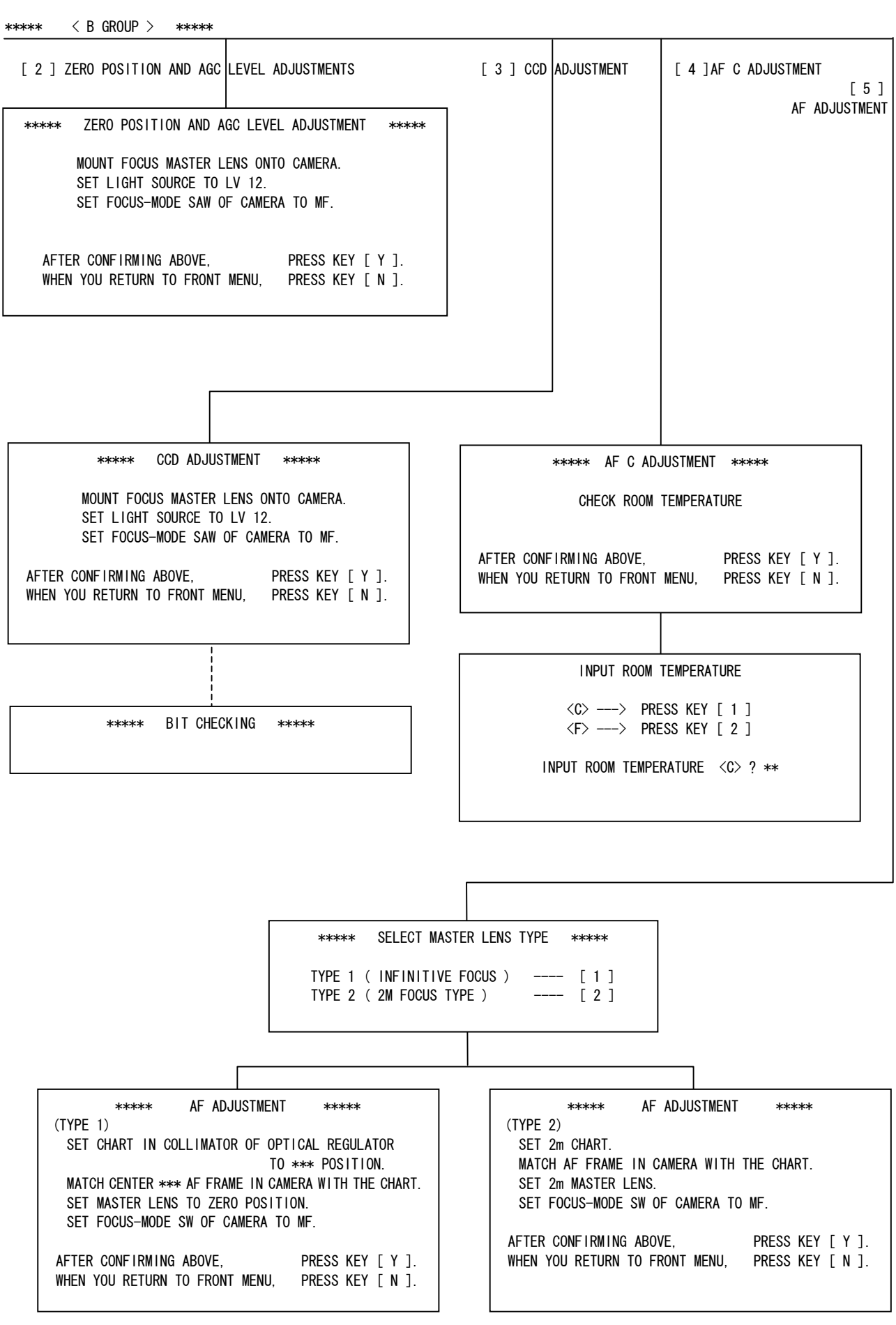
***** CCD FOCUS ADJUSTMENT *****

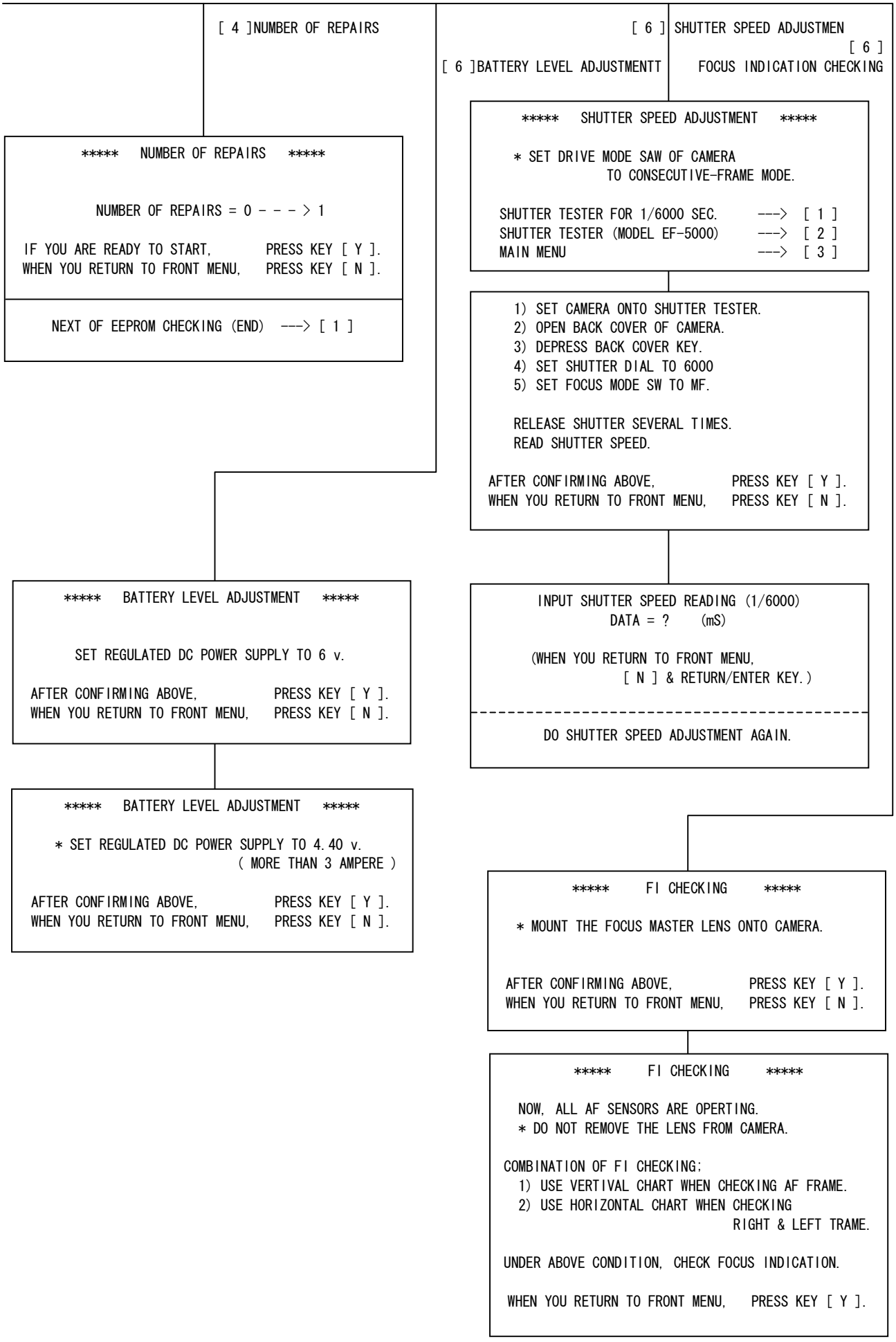
(TYPE 2)
SET 2M CHART.
MATCH AF FRAME IN CAMERA WITH THE CHART.
SET 2m MASTER LENS.
SET FOCUS-MODE SW OF CAMERA TO MF.

AFTER CONFIRMING ABOVE, PRESS KEY [Y].
WHEN YOU RETURN TO FRONT MENU, PRESS KEY [N].

***** CCD FOCUS ADJUSTMENTS *****

ADJUSTED WITHIN TOLERANCE.
FOCUS DATA= **


***** MAIN MENU *****
***** < B GROUP > *****
[2] ZERO POSITION AND AGC LEVEL ADJUSTMENTS
[3] CCD ADJUSTMENT
[4]AF C ADJUSTMENT
[5]
AF ADJUSTMENT
***** ZERO POSITION AND AGC LEVEL ADJUSTMENT *****
MOUNT FOCUS MASTER LENS ONTO CAMERA.
SET LIGHT SOURCE TO LV 12.
SET FOCUS-MODE SAW OF CAMERA TO MF.
AFTER CONFIRMING ABOVE, PRESS KEY [Y].
WHEN YOU RETURN TO FRONT MENU, PRESS KEY [N].
***** CCD ADJUSTMENT *****
MOUNT FOCUS MASTER LENS ONTO CAMERA.
SET LIGHT SOURCE TO LV 12.
SET FOCUS-MODE SAW OF CAMERA TO MF.
AFTER CONFIRMING ABOVE, PRESS KEY [Y].
WHEN YOU RETURN TO FRONT MENU, PRESS KEY [N].
***** BIT CHECKING *****
***** AF C ADJUSTMENT *****
CHECK ROOM TEMPERATURE
AFTER CONFIRMING ABOVE, PRESS KEY [Y].
WHEN YOU RETURN TO FRONT MENU, PRESS KEY [N].
INPUT ROOM TEMPERATURE
<C> ---> PRESS KEY [1]
<F> ---> PRESS KEY [2]
INPUT ROOM TEMPERATURE <C> ? **
***** SELECT MASTER LENS TYPE *****
TYPE 1 (INFINITIVE FOCUS) ---- [1]
TYPE 2 (2M FOCUS TYPE) ---- [2]
***** AF ADJUSTMENT *****
(TYPE 1)
SET CHART IN COLLIMATOR OF OPTICAL REGULATOR
TO *** POSITION.
MATCH CENTER *** AF FRAME IN CAMERA WITH THE CHART.
SET MASTER LENS TO ZERO POSITION.
SET FOCUS-MODE SW OF CAMERA TO MF.
AFTER CONFIRMING ABOVE, PRESS KEY [Y].
WHEN YOU RETURN TO FRONT MENU, PRESS KEY [N].
***** AF ADJUSTMENT *****
(TYPE 2)
SET 2m CHART.
MATCH AF FRAME IN CAMERA WITH THE CHART.
SET 2m MASTER LENS.
SET FOCUS-MODE SW OF CAMERA TO MF.
AFTER CONFIRMING ABOVE, PRESS KEY [Y].
WHEN YOU RETURN TO FRONT MENU, PRESS KEY [N].


***** MAIN MENU *****
[4]NUMBER OF REPAIRS
[6]BATTERY LEVEL ADJUSTMENTT
[6] SHUTTER SPEED ADJUSTMEN
[6]
FOCUS INDICATION CHECKING
***** NUMBER OF REPAIRS *****
NUMBER OF REPAIRS = 0 - - - > 1
IF YOU ARE READY TO START, PRESS KEY [Y].
WHEN YOU RETURN TO FRONT MENU, PRESS KEY [N].
NEXT OF EEPROM CHECKING (END) ---> [1]
***** SHUTTER SPEED ADJUSTMENT *****
* SET DRIVE MODE SAW OF CAMERA
TO CONSECUTIVE-FRAME MODE.
SHUTTER TESTER FOR 1/6000 SEC. ---> [1]
SHUTTER TESTER (MODEL EF-5000) ---> [2]
MAIN MENU ---> [3]
1) SET CAMERA ONTO SHUTTER TESTER.
2) OPEN BACK COVER OF CAMERA.
3) DEPRESS BACK COVER KEY.
4) SET SHUTTER DIAL TO 6000
5) SET FOCUS MODE SW TO MF.
RELEASE SHUTTER SEVERAL TIMES.
READ SHUTTER SPEED.
AFTER CONFIRMING ABOVE, PRESS KEY [Y].
WHEN YOU RETURN TO FRONT MENU, PRESS KEY [N].
INPUT SHUTTER SPEED READING (1/6000)
DATA = ? (mS)
(WHEN YOU RETURN TO FRONT MENU,
[N] & RETURN/ENTER KEY.)
DO SHUTTER SPEED ADJUSTMENT AGAIN.
***** BATTERY LEVEL ADJUSTMENT *****
SET REGULATED DC POWER SUPPLY TO 6 v.
AFTER CONFIRMING ABOVE, PRESS KEY [Y].
WHEN YOU RETURN TO FRONT MENU, PRESS KEY [N].
***** BATTERY LEVEL ADJUSTMENT *****
* SET REGULATED DC POWER SUPPLY TO 4.40 v.
(MORE THAN 3 AMPERE)
AFTER CONFIRMING ABOVE, PRESS KEY [Y].
WHEN YOU RETURN TO FRONT MENU, PRESS KEY [N].
***** FI CHECKING *****
* MOUNT THE FOCUS MASTER LENS ONTO CAMERA.
AFTER CONFIRMING ABOVE, PRESS KEY [Y].
WHEN YOU RETURN TO FRONT MENU, PRESS KEY [N].
***** FI CHECKING *****
NOW, ALL AF SENSORS ARE OPERTING.
* DO NOT REMOVE THE LENS FROM CAMERA.
COMBINATION OF FI CHECKING;
1) USE VERTIVAL CHART WHEN CHECKING AF FRAME.
2) USE HORIZONTAL CHART WHEN CHECKING
RIGHT & LEFT TRAME.
UNDER ABOVE CONDITION, CHECK FOCUS INDICATION.
WHEN YOU RETURN TO FRONT MENU, PRESS KEY [Y].

LIST OF JIGS・TOOLS・TESTERS.

◎ **Exclusive use for 27640**

1.Programmed soft for 27640
PC/AT Compatible for 3.5 inches 95901 P274
2. AF adjusting jig for 27640 (Square) 95901 M519
3. AF adjusting jig for 27640 (Cross-S) 95901 M520
4. Mirror adjusting jig for 27640 (MAAJ-2764) 95901 J132
5. AF chart for 27640 2m.(Attached with Service Manual/ 2m Focus Master Lens)
6. Power adapter for 27640.(Hand maid : Battery grip BG-10,solder power cord onto the Battery contact pieces. / Battery switching dial is set at Li.)
7. Temporarily bottom cover. 95901 N56

> **[Note]**
> When modifying(cutting) bottom cover by yourself, Please be careful for not to fire. Powders of Magnesium is very high flammable.

◎ **Others**

1. AF adjusting jig for 27250(Cross) 95901 M514
2. Camera connecting cable for 27250 95901 M515
3. 2m Focus master lens(ML-259) 95901 N24
4. Back cover for TTL adjustment《Hand made》
(Exp. : Adhere LX newer 1st shutter curtain at the position of aperture on A221)
5. Resistance (1k ~ 2.5kΩ, to check for positioning LED indication)

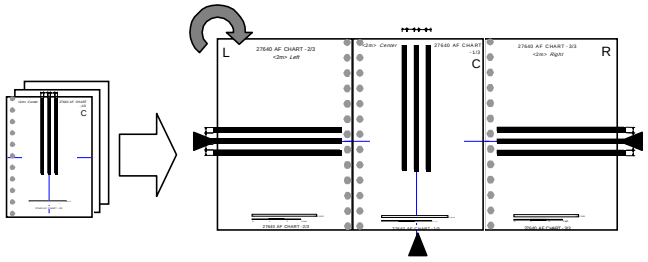
◎ **Others tools and jigs are same as MZ-5 except Power SW adaptor (95901 M123).**

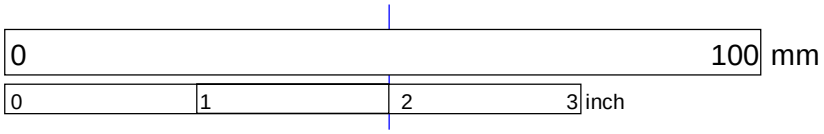
1. Personal computer
2. Color display
3. Serial interface(SIFI-269), Buffer for serial interface(IFB-269) or Camera multi Adaptor. 95901 M127
4. Hexagonal driver 1.5mm (HD-M1.5) 95901 K72
5. Shutter tester(Shutter speed or Exposure value, should be able to measure 1/6000ms)
6. 3 lines collimator chart(OCRC-25 9) 95901 M21
7. AE master lens (ML-245) 95901 N28
8. Diaphragm set ring(F8)(KA-00-1A) 95901 N26
9. Focus master lens for 35mm.(KML-01) 95901 N17
10. AE master lens for LX(LML-240) 95901 N27
11. Dial comparator(PH-2) 95901 N1
12. Block gauge for 35mm(229N-A01-A2) 95901 N4
13. Mount block(1620-A), Substitution of 23600N-A01 Mount block/ spacer. 95901 N47
14. Mount block spacer(23600N-A01,A104-A-A) 95901 N6
15. Mount spacer holder(23600N-A01,A104-A-B) 95901 N7
16. 1000mm Collimator
17. Optical regulator for MEF
18. Mirror positioning scope 95901 N49
19. 1st Mirror angle(45°) adjusting jig(24000N-B2-A) 95901 J104
20. Pen light(Similar one, for adjusting position of light receiving sensor)
21. Regulated direct current power supply.
22. Circuit tester.

<2m> *Center*

27640 AF CHART -1/3

C





27640 AF CHART -1/3

27640 AF CHART -2/3
0
1
2
3
inch
0
100
mm

27640 AF CHART -3/3

<2m> *Right*

R

0 100 mm

0 1 2 3 inch

27640 AF CHART -3/3